NEW-YORK FARMER,

AND

AMERICAN GARDENER'S MAGAZINE.

VOL. IX.] PUBLISHED MONTHLY, AT NO. 132 NASSAU STREET, NEW-YORK, AT THREE DOLLARS A-YEAR, IN ADVANCE. [No. 8.

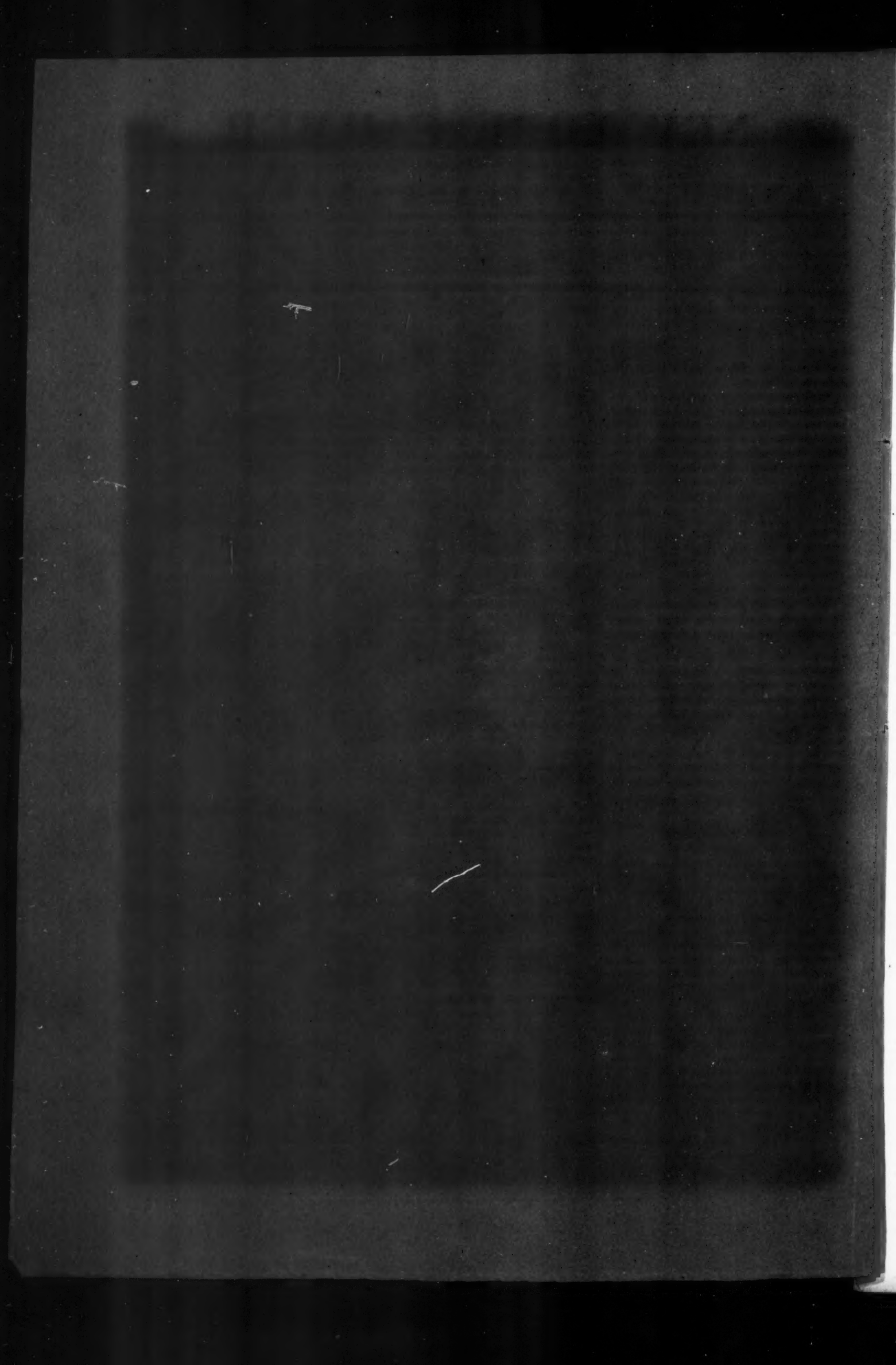
D. K. MINOR, and GEO. C. SCHAEFFER, } EDITORS AND PROPRIETORS.

FOR AUGUST, 1836.

[NEW SERIES—VOL. IV.

STATE HISTORICAL SOCIETY
816 STATE STREET
MADISON, WISCONSIN 53706

☞ *This number of the New-York Farmer consists of two sheets—the postage therefore is three cents for any distance under, and five for any distance over, one hundred miles.*



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NEW-YORK FARMER.

AUGUST 1, 1836.

Extract of a letter dated Columbia, Pa., August 3, 1836:—

We have now got through with our harvest, and every farmer, I suppose, can nearly calculate the number of bushels of wheat he will have to sell. As to myself, I shall have about as much as will do my own family for a year; and hundreds of farmers that in an average season could have taken four or five hundred bushels to market, will not have sufficient for their own consumption; in fact both wheat and rye have turned out even less than was expected.—Barly is good, and oats is *more* than a good crop, both in grain and straw.

We republish the following letter for the purpose of spreading all available information on the subject—and also with the design of correcting a slight inaccuracy in a late number, in regard to the species of beet employed. We have always felt the importance of this branch of manufacture to our country, and have sought for information from various sources. We are now happy to have it in our power to state, that we shall shortly receive from one of our friends in Europe, a detailed account of the process and machinery, embracing the latest improvements.

From the Boston Advertiser.

BEET ROOT SUGAR.

We have already published an interesting letter from Mr. Isnard, on the subject of the manufacturing of the Beet Root Sugar. We now publish another letter on the same subject, addressed by him to the President of the Agricultural Society, in answer to some inquiries made by the officers of that society, which will be found deserving of notice.—*Daily Advertiser.*

At a meeting of the Board of Trustees of the Massachusetts Society for promoting Agriculture, held 9th April, 1836:—

The President sent to the board a letter of introduction from Gen. Dearborn to him, (of the French Consul, Mr. Isnard,) with a view to the introduction of the Sugar Beet, and the mode of extracting the sugar.

Voted, That the subject be referred to the President and Mr. Gray.

A copy of the record.

BENJ. GUILD, Sec'ry.

In accordance with the above vote, the committee therein named, have had an interview with Mr. Isnard; and the following interesting letter upon the subject of the manufacturing of sugar from the white, or sugar beet, so called, has been received from him. The committee learning that this subject has of late created conversation amongst the farmers and others, have been induced to give pulicity to Mr. Isnard's letter, previously to submitting it to the board of Trustees, whose meeting stands adjourned to the 14th inst. Those of the Trustees to whom said letter has been communicated, approve of its immediate publication.

Sir,—As you have expressed a wish that the cultivators of this country might be generally informed of the principal observations made in France upon the culture of the sugar beet, and also what benefits they might derive by the making of sugar; and for my own part being desirous of fulfilling the promise I made to the public, in my first communication on the above subject, to give further information when called for; I have now the honor to transmit to you the following, which appears to me sufficient for the present, being ready at any time to enlarge on the subject, if required.

The variety of beet to which the sugar manufacturers now give the preference, is the white beet, (*Beta alba,*) imported into France from Germany; next to it is the yellow beet, (*Lutea mojor*) The first ought to be preferred in this climate, as it stands better against frost and rotting. This variety must not be confounded with another very similar, called in French *Disette*, Scarcity Root, (*Beta silvestris,*) also white, though very often striped red and white; this last is a great deal larger, more watery, but deficient in sugar.

The choice of the best beet will not suffice; care ought to be bestowed on the cultivation, in order to enhance and to perfect its saccharine principle, and even facilitate the several processes for obtaining the sugar.

Deep light, rather sandy, but rich soil is requisite to raise an abundant crop of beet of good quality. Beets raised on a field newly manured have proved to contain salts detrimental to sugar, and which increase the difficulty of obtaining it. Good pasture land, not marshy, broken up and planted with beet, produces the most saccharine roots. The transplanting has been discontinued as more expensive, less certain, and the young plants so transplanted producing roots less perfect in shape, a matter of some consequence, owing to the subsequent mechanical operations, those roots are to be submitted to; and also owing to the aptness of the plant so transplanted to rise out of the ground while growing, which causes a great loss to the sugar manufacturer, since it has been proved by analysis that the portion of the root so exposed to light and air, is far from being so rich with sugar as the part which is under ground; hence the necessity of hoeing and earthing up the roots. Seeds ought to be laid in rows at two feet apart, that distance will allow us to perform the weeding, the hoeing and the earthing up easily, by means of a proper hoe or plough, drawn by a horse, now generally used in France.

The gathering offers nothing particular; care ought to be taken not to hurt the roots; they should be deprived of their small fibrous roots, and also of all the green part of their top to which the leaves adhere.—The stowing of a large quantity of beet deserves the greatest consideration, in order to prevent their heating; for if they vegetate the saccharine principles enter into new combinations, and sugar can no longer be obtained with the same profit.

In Germany the leaves are carefully dried and used as a fodder for cattle. In France the leaves not immediately used are left on the ground as a manure.

The expenses attending the cultivation of one acre of land planted with beet, will vary according to circumstances; every farmer is to judge for himself.

The quantity of beet gathered on one acre will also vary even from 300 to 500 bushels. A respectable farmer of this country has assured me, that 600 bushels would not be considered an extraordinary crop on a rich soil, and with proper management. Nothing in this remark ought to surprise us, for admitting the roots at 2 feet apart, 11,000 roots will be gathered on an acre. The average weight of each may be 3½ lbs. In fact many will weigh as much as 8 lbs. In the following calculations I take for granted 350 bushels as the average crop of one acre, a bushel of beet to weigh 60 lbs.

As to the benefits which a farmer will derive by the cultivation of one acre with beet for the making of sugar, they can be stated as follows:

800 lbs. good Muscovado Sugar valued at 8 cents per pound,	$64
50 gallons of Molasses, good for distillers, at 16 cents per gal.	8
4 tons of Pumice, a good food for cattle, $3 per ton,	12
1 ton of dry leaves, or their value as manure,	5
Total,	$89

Owing to the want of skill and experience, I admit at only 4 lbs. the quantity of sugar obtained, though 5 lbs is generally obtained, and even some manufacturers obtain as much as 7 lbs. of sugar for every

100 lbs of beet. From this amount ought to be deducted about $5 for sundry ingredients for manufacturing purposes; also the cost of one cord of wood for fuel. The several operations will be performed by the farmer at his leisure time. The expenses for tools, apparatus, &c. &c., can be valued at about $120, but should the works be enlarged so as to work a double or greater quantity, those expenses would by no means increase in the same ratio.

Should a company be formed to carry on conjointly the cultivation and the manufacture of sugar on a large scale, other benefits would be derived—1st. By the improving of a large tract of land. 2d. By the refining of the sugar at a trifling additional expense. 3d. By the fattening of cattle. 4thly. Getting the most of sugar at the least expense possible, by being enabled to secure the service of competent superintendents, and by making use of labor-saving machines moved by steam engines; all of which I am ready to demonstrate on application made to me.

In my first communication on this subject, I have stated, that the pumice of beet was a better food for cattle than beet in their natural state; to this assertion objections have been made; allow me, sir, to support my position by a few observations more, inasmuch as they will impart a more correct knowledge of the benefits that can be expected by some new improvement in the process of making the sugar of beet.

By chemical analysis 100 lbs. of beet root prove to contain 85 to 90 lbs. of water, 6 to 11 lbs. of sugar, 1 to 2 lbs. ligenous substance. Pectic acid, albumic, salts, earth, together 2 to 2½ lbs. The greater the proportion of water, the less is the proportion of sugar. The average quantity of juice obtained from 100 lbs. of beet is about 70 lbs.; the weight of the pumice left is 30 lbs. The quantity of sugar extracted from 100 lbs. of good beet by those who are skilled in the process, is now 7 lbs.; but from 1 to 2 lbs. of it is mixed in the molasses; consequently the pumice is proportionably more rich in saccharine principle than the beet. In its natural state the beet holds 85 per cent of water; the juice obtained from it holds 63 lbs. of water; then 22 lbs. of water remain in the 30 lbs. of pumice; consequently in less proportion than in the beet. This is not all, in the pumice the water is *almost solidified*, as it has been observed, by the pectic acid, which is combined with it, and contributes in a great measure to render the pumice so nutritious; if added to this, that the pumice is easily chewed and better digested, it is not surprising that cattle relish it more than the common beet, and thrive exceedingly well when fed upon it.

The following is fact: the first year I manufactured sugar in France, I offered the pumice for sale, for what milkmen were pleased to give; they soon finding the benefit derived from it, offered more for it than for common beets. Wishing to ascertain what price they were willing to pay for it, I asked as much as one half more than the price I paid for common beet (all by the weight) and yet found a sale for it. They said that 100 lbs. of pumice went further than an equal weight of beet; that they were saved the trouble of washing and cutting them; that when feeding cows with pumice they could save the dry food they were obliged to give them, when feeding them with beet.

Should these observations, for which I beg your indulgence, be in any way deemed beneficial for the promotion of this new branch of agricultural industry in this country, they are, sir, at your disposal for whatever circulation you may be pleased to give them.

I have the honor to be,
With the highest respect, sir,
Your most obedient servant,
MAX. ISNARD,
French Vice Consul for Boston.

To the Hon. L. WINTHROP.

Boston, April 15, 1836.

From the Cultivator, for August.

MATTERS OF INTEREST TO ALL.

We venture to lay down the following propositions as adapted to our day and country:

1. *Every business in life is mainly dependent, for its prosperity, upon the labors of agriculture.*

Agriculture is the body, while the other professions are the members; and although the body and members are mutually dependent, and reciprocally useful to each other, the body can exist without the members, much better than the members can exist without the body. The farmer can supply his necessities, and most of his reasonable wants, within the circle of his family; he can feed and clothe himself: but his wants are enlarged, and his ability to gratify them increased, in proportion to the profits of his labor. If through ignorance or sloth he produces only what is necessary for the sustenance of his household, he can buy neither of the merchant, the manufacturer or the mechanic,—nor contribute to the support of the learned professions; or, if he buys, he cannot pay. But if his produce is double what is required for the consumption of his family, the surplus half may be employed for the benefit of the other classes—in purchasing from them the comforts and elegancies of life. The other classes, on contrawise, cannot thrive, as such, without the aid of the farmer: he furnishes the raw materials for the manufacturer, he feeds the mechanic, and freights the bark of commerce; and is besides the principal customer to them all. It follows, as a corrollary, that

2. *The prosperity of a State is determined by the good or bad state of its husbandry.*

We see every where, in districts as well as in entire states, the strongest proofs of the correctness of this proposition. Contrast Dutchess, Orange and Columbia, with any three counties where agriculture is neglected, or managed in the old slovenly manner. In the first, all classes thrive and prosper, if they are industrious and prudent; because there the body is in healthful vigor. In the latter, you will find the body lethargic, diseased, and covered with putrifying sores, and the members partaking of all its infirmities. The last winter's experience in our cities and towns, shows their extreme sensitiveness to the fluctuations in the supply of agricultural products. Some of the farmers crops were last year deficient in the accustomed yield, and the consequence was, the buyer had to pay 25 and 50 per cent above the ordinary prices for many articles of the first necessity. Had the products of the soil been double what they were, prices would have been low, and the buying classes would have subsisted cheaper and better, and the farmer would have purchased of them, in return, more liberally.

3. *The improvements and proffits of agriculture, and the consequent prosperity of a State, are in the ratio of the measure of intelligence which guides its labors.*

The head can do no more than the hands. The animal strength of the ox and the horse would effect no useful purpose, with the contrivance and direction of man. In many countries on the old continent, where the cultivator is debased by ignorance and despotism, the awkward, ill-contrived implements of the primitive ages are still in use; and in some parts of our own land, the hoe, or the rudest machine of a plough, is still substituted for the greatly improved implements of modern times, because the cultivator is ignorant and servile. There is not a manufacturing employment, nor a mechanic art, but has been greatly abridged in its manipulations, and had its fabrics improved in quality, and reduced in price, by the aid of modern science. We say *modern* science, because we consider that some branches are but beginning to develope their practical advantages to useful labor. We verily believe, that science can do more, and will do more, in the coming thirty years, to improve the condition of agriculture, than has been effected in the two last centuries. An intelligent head is deemed of more importance, and commands a higher compensation, in many of our large establishments, than half a dozen mere sinewy arms. Mind is the lever that moves the material world,—the master-spirit that civilizes man, and multiplies his comforts and enjoyments. We may acquire knowledge in our business, mechanically, but slowly. The acquisition may be accelerated and augmented, to an amazing extent, by the experience and teachings of men who have made natural and chemical science their study and employment for life. There is another consideration which renders the improvement of the mind of public benefit: ignorance begets indolence, and indolence begets vice. If we would, therefore, inculcate virtue, we must foster industry; and if we would make industry respectable and desirable, we must throw light upon its paths, and secure for it merited reward.

If we have succeeded in establishing our propositions, it results as a consequence, that the improvement of our agriculture is of the first importance to every class of our population; and that this improvement can in no way receive such efficient aid, as by instructing the youth who are hereafter to manage its concerns, as well in the science as in the practice of their business.

We have drawn the readers attention to the subject at this time, that the measures neccessary to produce the desired result may undergo a thorough and timely investigation, and that our citizens may be prepared to co-operate in such of them, as may seem best adapted to subserve the public weal, before the coming winter. The distributive share to New-York, of the surplus revenue, which congress, with great unamity and wisdom, has directed to be divided among the States, will probably amount to between two and three millions of dollars. And the question will present itself to our next legislature, and upon which they will want an expression of the public wish, to what objects, and in what manner shall these monies be applied? Shall they be expended on internal improvements, on education, and in improving our agriculture, upon either or all of them, exclusively, where their benefits cannot fail to be general, and important, and abiding,—or shall they go into the general fund, where there benefits are likely to be more partial and transitory?

As pertinent to this subject, we would ask the reader's attention to the extract in our young men's department, from "First Lessons in Political Economy," by Professor M'Vickar, of Columbia College, a little work which the man as well as boy may peruse with profit.

From Hovey's Gardener's Magazine, for August.

REVIEW.

THE GARDENER'S MAGAZINE AND REGISTER OF RURAL AND DOMESTIC IMPROVEMENT. CONDUCTED BY J. C. LOUDON, F. L. S., H. S., &C. IN MONTHLY 8VO NUMBERS; 1S. 6D. EACH. NO. LXXIV, FOR MAY.

This number is full of valuable information, from which we shall make large extracts. It contains twelve excellent original communications, from various scientific and practical men.

Art. 1.—"Gardening Notices suggested by a tour in France, in August and September, 1835." By T. Rivers, Jr., the well-know nurseryman at Sawbridgeworth, at which place is one of the finest collections of roses in England. The article is full of interest, being amusingly as well as instructively written. The following extracts include the most useful parts of the paper:

"*Forcing the Rose.*—At Lisle, in one of the numerous small nursery gardens, I was interested with what might be called a most eligible mode of forcing the rose. In this instance a small span-roofed house was used. A border on each side of the central path was planted with roses budded on dog-rose stems of different heights; the shortest stems being put next the path, so as to make their heads form a sloping bank. The surface of these borders was covered with manure, to keep them in a constantly moist state. The common smoke flues were used for heating this house; and the owner informed me that, by beginning to force in December, roses were gathered from it plentifully for the market in March and April.

"After the crop of flowers was gathered, the lights were taken off in May, and the plants exposed till the period for forcing again arrived. This method appeared so simple and economical, that I took a memorandum merely for the purpose of suggesting it to your readers; and, for growing moss and other roses for boquets near London, it might, I think, with some little modification, be carried extensively and profitably into practice. In this way, also, with but very little trouble, a rose garden in full bloom and luxuriance might be created as early as the end of February; and, by selecting some of the ever-blooming varieties, continued nearly through the whole year. And what a delightful sheltered promenade might thus be formed by those who, regardless of expense, would build an elegant span-roofed house, with movable lights, so as to form an agreeable resort, not only in early spring, but also at the end of summer and autumn! for in September and October, and even in November, the Noisette, China and perpetual roses, regardless of having been forced, would bloom again as luxuriantly as ever."

The following is given as the "Mode of Cultivating Pear Trees in Pots, where the object is economy of space."

"A Frenchman's town garden is often a model of economy of space. You will find a choice collection of roses, budded on short stems; a collection of valuable rhododendrons, azaleas, and camellias, in pots; and, perhaps, thirty or forty varieties of pears, all growing in so small a space, that an English gardener, can scarcely believe what he sees. In the garden of M. Smedt, a distinguished amateur at Lisle, the pear trees were literally pyramids of fruit. The summer foreright shoots were tied in so as not to shade the pears, and the following winter they were removed. I suspect, also, that the roots of the trees were annually shortened, to reduce the luxuriant growth which pear trees are so liable to; but this I could not ascertain. The soil was a loose black sand, and the trees models of productiveness. Many of their stems, being too weak to support the weight of fruit, were tied to green painted stakes Much of this extraordinary fruitfulness in such confined limits was owing, no doubt, to a more genial climate than we have here; as the summers and autumns are warmer, and the wood is always well ripened: but many of the best Flemish pears might be grown in our town gardens with quite as much economy of space as in France, if any regard were paid to culture. This culture is simply to keep them from growing too fast, by confining or reducing their roots; blossom buds will then be formed in abundance. It seems almost impossible to kill a pear tree: for though I have opened a circular trench round a pear tree, and cut off every root to within fifteen inches from the stem, yet it has not suffered, but, the following season, has been covered with blossom. In some of our rich London gardens, cutting the roots annually would have little or no effect; but I think that, if pots were manufactured expressly for the purpose, of large dimensions, we will say two feet deep, and one and a half foot in diameter, and plunged to the rim, not deeper, a collection of the new Flemish pears might be grown in any small garden. I mention, particularly, that the rim of the pot ought to be above ground, on account of the lateral roots, which would otherwise make their way over it, and give the luxuriance which it is so necessary to check in order to get fine fruit. To keep the trees under control in this respect seems to be the grand object of pear tree culture; and I feel assured that this may be attained by growing the trees in pots, by keeping the surface well supplied with manure, and, in summer, by watering with liquid manure. I hope ere long to see as many amateurs of pears as there now are of dahlias and roses; and, in all the principal nurseries, specimen plants of every variety in cultivation, growing and bearing abundantly in plunged pots. One precaution must be strictly urged.—Every gardener is aware of the tendency of the pear tree to make what is called a taproot. This the plants in pots will most assuredly do, if not checked, through the hole in the bottom. I therefore recommend that, in November or December annually, a trench be dug by the side of the pot, which must then be turned on one side, and every vestige of a root which may appear through the hole cut off with a spade. In the course of a few years a bunch of fibrous roots will be formed, that will require no other trouble than being annually disturbed; that is, the pot turned completely on one side, to prevent their giving too much luxuriance to the tree, by spreading into large feeders."

At Versailles are numerous small nurserymen, who principally grow plants for the flower-markets of Paris. Grapes are ripe there in the open border by Sept. 6. Magnolia tripetala was ripening seeds at the same date. Hundreds of yellow China roses, budded on short stems, were covered with flowers. What a splendid sight! The principal plants grown are Kalmia latifolia, and glauca, azaleas, rhododendrons, &c.; but it is stated they are not sold so cheap as in England.

In the *Jardin des Plantes*, at Paris, Maclura aurentiaca was bearing fruit. The original plant of Æsculus rubicunda, raised there by Michaux, in 1812, is now a fine specimen. Two new iron palm-houses were [1835] being erected, which it is supposed, will surpass any thing of the kind ever yet built; they are the boast of the Parisians. Iron curtains are attached to most of the green-houses in France, to protect them from hailstorms, which are very prevalent on the continent, as will be seen in another page of the present number.

The following remarks allude to the purple laburnum, of which much has been said in England, and much imposition, we believe, carried on in the sale of the plants.

"The purple laburnum, of which so much has been said lately, was growing here in great perfection. It came accidentally from seed among some common laburnums, in 1828, in the nursery of M. Adam, whence its name of Cytisus Adamii in some cata-

logues. A fine plant was shown me by M. Camuset, which appeared to be half *Cytisus purpureus*, and the remainder purple laburnum. On examination, the curious fact was ascertained, that the purple laburnum, which is evidently a hybrid between *C.* purpureus and *C.* Laburnum, had partially returned to the habits of one of its parents, the *C.* purpureus. This is surely a most unusual occurrence. Here was no trickery of grafting practised; for I saw nearly a similar fact produced, in Jan. of the present year (1836), on a tree which I had sent to the Hon. C. Herbert of Ickleton, Cambridgeshire, in 1834, which presented preciselythe same appearance. At the extreme end of one of its shoots there came forth a branch of the pure *Cytisus purpureus*, with its small leaves and peculiar hair, appearing as if budded on the purple laburnum Have you in your long experience, ever seen any fact approaching to this, viz. of a tree returning from hybridisation to the state of one of its parents?"

Among the French gardeners, the practice is adopted of surface manuring the soil, and, more particularly, roses: the importance of this system may be seen from the following observations:—

"During this last dry summer, when they constantly required water, without this, the surface of the ground would have been regularly baked and impervious; with it, the water poured down did not rapidly evaporate, but carried to the fibres a constant supply of nutriment from the manure. What an excellent hint does this give to planters on poor, stoney, sandy, or chalky districts in this country! On such soils all the manure should be put on the surface, and left for the worms and the rain to force it in. In the private garden attached to the Luxembourg Palace, and open to the members of the French Chambers only, are some of the finest rose trees in the world, apparently of great age (I regret not ascertaining this more correctly) and in vigorous health. Many of the stems of the standard roses in this garden are as thick as a stout man's leg. They are not budded on tall stems, their average height being, perhaps, from four to five feet; and they support themselves without stakes. Though so old and so large, they have regular annual culture, their heads being pruned every season, and the surface of the ground constantly manured. In this we have yet much to learn from our neighbors. With us the general mode is to plant a tree, and leave its after-growth to chance. Of course I now allude to amateurs and those gentlemen who amuse themselves by being their own gardeners; and, perhaps, this hint may induce them to give all their trees and shrubs some little annual notice."

We have frequenly heard it stated, by many of our amateur gardeners, that tree roses are of very short duration in our climate; that from some causes they suddenly died off before the cultivator was even aware they were in an unhealthy state. These causes have been by some attributed to the effect of climate—by others to their cultivation—and by many to improper stocks, on which they are budded. We have not had sufficient experience to allow us to offer any information on the subject; but so far as we have grown the tree roses we have found them to flourish equally well with the dwarfs. The severity of last winter, which, as almost every one knows, was unprecedented for its duration, as well as for its intensity of cold, left unharmed some dozen or more of tree roses, among which were two or three hybrids that were fully exposed to the weather. The ends of the shoots were killed more or less, as were also the dwarf ones, but they grew as well and flowered as freely as ever we have seen them. We are rather inclined to the opinion of the author of this paper, that it is more from neglect than from any effect of climate or soil. It is too often the case that after a plant is set out, whether it be a fruit tree, a vine, or a shrub, nothing more is thought of it, unless it be the thought of wonder and astonishment that it should not flourish and bloom as well as those under the care of the experienced cultivator. It is impossible to expect plants to grow of themselves; they need care and attention, and, unless they have it, they must not be expected to repay the cultivator by either brilliant blossoms or vigorous growth. We do not hesitate to say, that tree roses will live to as great an age and blossom as finely in our climate, as those mentioned in the above extract.

Numerous beds of seedling China roses (Rosa indica), and the tea-scented China roses (R. indica odorata), were in full luxuriance of bloom on Sept. 10th, which was attributed to the superiority of the climate Those little petty jealousies which are too common among our gardeners, it will be observed, by the following extract, tend to have no good effect upon the advancement of horticulture or floriculture:—

"Some most superb varieties were among them; but M. Hardy is rather chary of his roses, and does not like them to be distributed hastily, patronising the old fashioned idea of possessing what his neighbors have not. It is amusing to find very prevalent here the little jealousies and envyings that at one time were so common among our florists. If a rose that has been raised from seed by M. Hardy is praised in the presence of another celebrated amateur near Paris, it is always responded to with 'Bah!" and a shrug of contempt. Reverse this, by praising the amateur's rose to another, and you will find the same effect produced. It is therefore most prudent, if you wish to remain in the sunshine of favor, to limit all your admiration to the roses present, forgetting that there are any other roses or rose amateurs in the world.

"Among the seedling roses in this garden were some most curious hybrids, between Rosa or Lowea *berberi*folia and other roses: they had not yet bloomed, but really looked very interesting, owing to their peculiar habit. A custom in France among rose-growers gives rise to many (to us) very uninteresting names. An amateur who raises roses from seed is regularly beseiged by his lady friends to name one after them. He therefore keeps a book in which applications are duly registered, and this is only deviated from, under very peculiar circumstances; hence we have Madame Desprez, Madame Hardy, &c. I often think some of the fair applicants have not been in high favor when I find very bad roses honored with their names, which are soon consigned to oblivion. On the contrary, if you find a cultivator names one after his wife, it is generally a very fine flower, as is the case with those above mentioned. I think this is generally a very safe criterion for judging of the goodness of the flower, merely by the name; for, if the unfortunate grower has a termagant wife, I am quite sure (from the active part French women take in business) that she would not allow her name to be attached to a bad rose; and if an affectionate partner, his feelings will prompt him to honor her name with a fine flower."

The Paris Nurseries.—The nursery business in Paris seems to be at a low ebb; the writer states that there is not a respectable one in the vicinity. That of Cels is much reduced. Noisette has retired. Fion's nursery is in good taste, but very small. It is said that new and rare plants are not patronized, and only flowers and flowering plants for the market are worth cultivating. This depression of the nursery business the writer attributes partly to the following cause:—

"Another cause for the slovenly and bad state of the French nurseries is, that the instant, by plodding, the proprietor accumulates eight or ten thousand francs, he considers himself a man of fortune; and, instead of investing it in improvements in business, as we do, he lives on the interest, and feels proud in being called a gentleman; for, however respectable we think a man in large business, the French do not; but consider an idle man of thirty pounds per annum as much his superior.. I have found this from experience; as an amateur, you may command any thing: but if you avow yourself *un commercant*, ten to one, but the tone is changed. When an Englishman is told the amount of property that some of these "men of fortune" possess, it is impossible to repress a smile at the extraordinary smallness of the sum which contents them; but then *soupe aux choux* (cabbage soup without meat) five days out of seven is cheap living, and coffee is also cheap; and these are all a Frenchman cares about *at home*; though, if you take him to a restaurateur's, and *treat* him with a good dinner, it is amazing how he will enjoy the good things of this life."

This is a true trait in the French character.

"*Commercial Rose Nurseries in Paris.*—Nothing can be more insignificant, both as to size and stock, than the nurseries of the commercial rose-growers near Paris; they seldom exceed one acre, and more frequently contain but half that quantity of ground; in which standard roses of all heights, and dwarfs of all sorts, are grown in the same rows; presenting, to a stranger, an inextricable mass of confusion. It would be difficult to execute an order for a general good collection from any one of these nurseries; but they are so numerous, that twenty may be vis-

ited, for twenty sorts of roses, with but little difficulty. I had concluded that M. Laffay, and one or two others, whom I knew to have been in our English nurseries, would have adopted, in some degree, our orderly arrangement; but they had not in the least deviated from the custom of their neighbors; and M. Laffay's little garden, of half or three quarters of an acre, was as full of roses and confusion as any that I saw."

With the Cemetery of Pere la Chaise the author was not very well pleased; too many evergreens are planted about the graves, forming a dreary and gloomy mass. The cypress and weeping willow, the two most appropriate trees for planting in such situations, are rarely seen. The same may be said of the Cemetery at Mount Auburn; we have been surprised to see so few cypresses and weeping willows planted, while masses of arbor vitæ and balsam firs are scattered in profusion around many of the graves. We hope the proprietors of lots will give some attention to this, and plant more flowers and fewer trees, and those appropriate to the scene.

From the higher parts of Pere la Chaise the view of Paris is said to be most beautiful. The following remarks in regard to this place we commend to the attention of every person interested in the cemetery of our vicinity; they are applicable in every instance:—

"How much it is to be regretted that a finish is not given to this interesting place by removing and thinning the overgrown and crowded trees, and planting others more appropriate; filling up the hollow paths, and giving some of them a fresh direction! In short, it ought to be under the management of a committee of taste, rather than left to individual caprice."

How delightful and pleasing a view of the city and environs of Boston might be opened, by cutting away some of the trees and brushwood which surround the highest part of Mount Auburn, and from where nothing can now be seen but the blue sky above. In the foreground might be traced the gentle curvings of Charles River, beyond and to the left of which, Cambridge, with its colleges and retired residences, and, farther still, the distant city. On one side would be seen the rich scenery of the highly cultivated and fertile village of Watertown, with its noble sheet of water, and, on another, the adjacent towns of Brighton and Newton, with their quiet villas and picturesque landscape. Indeed, we know of no spot where the surrounding country could be viewed with more advantage—no place where the many strangers who resort there during the summer season could gather a more favorable opinion of the varied scenery and highly cultivated character of the vicinity than on this spot. We have long hoped that this rare opportunity would not have escaped the observation of the proprietors of this interesting place—and we look anxiously forward to see it carried into effect.

The second article is by our well known and practical agriculturist, Judge Buel, "on the Excretory functions of Plants."

The third article is a continuation of designs for laying out suburban gardens, with wood-cuts.

Art 4. contains some account of the "Indigenous and Exotic Trees of Switzerland."

The total number of ligneous species of trees in Switzerland is two hundred and eighteen, of which fifty five rarely exceed the height of two feet; one hundred and one are shrubs, varying from two to ten feet; twenty-four are shrubs and low trees, not exceeding twenty-five feet in height, and thirty-eight are trees which surpass twenty-five feet. The best vineyards of Switzerland, as to quality, are those of Valais and Tessin. Those of the Canton de Vaud furnish a fine wine, and bear enormous crops, in consequence of the manure which is lavished upon the lands.

Articles 5 and 6 are not of much interest to our readers.

The seventh details a method of grafting rhododendrons, particularly that magnificent species the alta-clerense. We give the writer's own words:—

"Having been successful in propagating *Rhododendron* alta-clerense in a way that I have not before seen practised, I make it known to you, hoping that my doing so may induce others to practice it; and trusting it may be the means of making this scarce species of this beautiful genus of plants more abundant. Calling at Chatsworth last spring, I observed that they had a fine plant of it beautifully in bloom; and I begged the favor of Mr. Paxton to allow me to take a small sprig, which he kindly permitted me to do. I then inserted the end of the sprig into a potato, and brought it home with me a distanne of eight or nine miles. Happening to have a small plant of *Rhododendron* ponticum in a pot, I cut it down to about five inches above the pot, and grafted it in the whip manner with the small sprig thus procured, letting the end still remain inserted in the potato. I then clayed it, and put it under a hand-glass in a cool vinery, where it united to the stock, and is now a healthy plant, standing out under a south wall."

Articles 8, 9 and 10 are valuable, but we have room only for one or two extracts from the 8th, upon the preparation of grape borders to graperies or green-houses, and the pruning of the vines. The author of this paper (entitled an Essay upon the Cultivation of the Vine under Glass,) gained the first prize at the St. Andrews Horticultural meeting in September, 1835.

"I now come to the preparation of the border. The situation, if not naturally dry, must, of course, be rendered so by draining. The best bottom, in my opinion, is one formed of large flat stones, got from the top of a lime rock, which is of a nature that would assist the growth of the vines when they reached it. The border ought not to be deeper than from two to three feet; as, if it is more, the roots of the vines will get away from the action of the summer weather, and the good of the manure that may be put on the surface. Instead of having the border almost composed of stiff clay, as is often the case, I would have it formed of decomposed turf and good black earth, with a sufficient quantity of decomposed cow-dung, vegetable mould, and cold [slaked] lime, well mixed by frequently tuining it. and which should be allowed to lie for two years if convenient.—Having the border filled in and subsided, I would plant the vines in rather a poor soil, as the roots will run farther in such soil, the first year, than in a strong rich soil. I would have good strong plants planted close to the wall on the outside, and introduced through holes made in the building, from four to six inches in diameter, projecting upwards towards the inside, and proceeding from a few inches above the surface of the border on the outside.

"I would not plant more than one plant for every two sashes in the house, as the less the roots are interwoven with one another the better; and there is no difficulty in filling any house in this way. I would train up only two shoots the first year, keeping the sashes of the house on all the first season, until the leaves have fallen off; at which time I would cut down both shoots to three buds. The second season I would put on the sashes the first of March, giving pleuty of air through the day, and shutting up at night. It will be observed that I have allowed three buds to remain on each shoot of last year's growth, which I would train up to their full length. There should be a little fire put on this season, about the latter end of August, at night, or when the nights turn cold; and this fire should be continued until every leaf falls off. The third season I would allow the shoot in the middle of the sash to remain, nearly to the top of the house, cutting down the other two to two buds, or eyes, which will produce two shoots on each side of the fruiting one, and which are to be trained up to their full length.—The house may be shut up about the 1st March, and the fire lighted about the middle of that month, the heat being raised gradually to 75°, at which it may be kept until the fruit is ripe; when it should be allowed to fall off by degrees, but not entirely discontinued until the whole of the leaves have fallen off.

"I now come to the winter pruning for the fourth season. It will be observed, that I had one fruiting shoot and four young shoots for every sash last year: the old one I would allow to remain, with spurs of three buds, and one of the young shoots on each side of it, nearly to the top of the house, the other two I cut down to two buds, which will produce two young shoots on each side of the three fruiting ones, to be trained up to their full length. If the vines have been all along treated as above, they will now be very strong, and will be able to stand forcing nearly a month earlier, if required; and, also, more heat than when they were younger. Indeed, I consider that vines, after they have attained to the age of standing forcing, should have much more heat than is commonly given to them.

"I will now describe my method of winter pruning for the fifth year, which will show how I would continue it. It will be observed that I had three fruiting shoots, and four young ones, for every sash

last year; the spurred one I cut away altogether, and spur the two which had only fruited one year, with two of the young shoots, which will leave two for cutting down, to produce four young shoots again. Now it will be seen that I have always two spurred shoots, and two young shoots fruiting, and two to cut down; which is not only a regular method of pruning, but one which will keep the vines in a far more growing state, than the common methods of having so much old wood upon them. It will be seen by this regular method of winter pruning, that the summer pruning can be done in much less time, which is also an advantage, by my method of performing; which is, to pinch off all the laterals which may appear below the fruit, and one bud above it; continuing to pinch off all above the next bud, as the plants grow, for the whole season. With regard to the number of branches which I would allow to grow on each fruiting spur, it should be all that set well, as the vines will be able to bring to maturity almost all the fruit they show, if treated in the manner I have endeavored to describe."

Article 11 is a plan for growing Potatoes and Dahlias on the same ground and in the same season. We believe this system is pursued by some of the florists in Philadelphia; at least, we have been so informed. We have no doubt it will answer well; and to some persons who wish to combine the useful and ornamental, and who have but a limited piece of ground, it may prove an excellent mode.

"In the autumn, when the leaves have nearly all fallen from the trees and shrubs, and the seeding weeds are near coming to seed, I fork over all the spare ground where crops have been growing, which leaves it in a neat state during the winter. In February I plant my potatoes (the early Shaws,) which I generally put into the ground whole; but, if the potato is large, I divide it by drawing the knife through the middle of the cluster of eyes at the end of the potato. I begin planting the large beds, having the first row a convenient distance from the edge; after setting down the line, I dig a trench without treading upon the spade, and, as I come back, clean out the trench to about four inches deep. I put in the sets, then remove the line three feet or three feet and a half, and dig another trench in the same manner, having a wooden rake by me to pull in the earth over the sets, and rake the ground even as the work of planting goes on. I next remove the line two feet, and dig another trench, which leaves but sufficient space for the moulding up of the potatoes. I next remove the line three or three and a half feet, and so on. As soon as the potatoes are grown a sufficient height to be seen, I fork the ground one fork wide on each side of the row, by thrusting in the fork and pressing it down, so as to raise the earth, and thus leave it, not to throw it out. When the plants are sufficiently high, I mould them up, observing to mould them highest on the wide side, so as to to give the stalks an inclination to fall between the narrow rows, where they are to be kept, so that one side of each row may have the full benefit of light and air.—About the middle of May, I put on between the wide rows a slight coat of dung, and dig it in close to the moulding of potatoes. By this plan the potatoes do not get at the dung, until they they are in a fit state to bear it without injuring their flavor. I plant the dahlias five feet asunder between the wide sows of potatoes, placing a stake about two feet high to each plant, for the purpose of supporting it, and marking the place where a taller stake is afterwards to be placed. In July and August the potatoes are taken up, and the ground cleared. If the weather should be dry, and the dahlias likely to require water, I then make basins round the plants before levelling the soil. Since I have adopted this plan, I have had a more abundant crop of potatoes, and of better flavor; and, instead of the ground appearing as if lying waste after they are gathered, I have something to look at. As my garden rises on each side from the centre walk, I can assure you the dahlias, when the colors are well mixed, make a very pretty appearance."

From the Farmers' Register.

ON THE CULTURE OF WHEAT.

By TH. J. RANDOLPH.

READ BEFORE THE AGRICULTURAL SOCIETY OF ALBEMARLE, AND ORDERED TO BE PUBLISHED IN THE FARMERS' REGISTER.

In obedience to a resolution of this Society, appointing essayists at their October meeting, in 1835, I have the honor to submit the following communication upon the culture of wheat.

Although deep culture is important, if not indispensable with all plants, to permit their roots to penetrate the soil freely in search of food and moisture, and to allow the water in heavy rains to subside without abrading and gulleying undulating lands, or drowning those that are level, it may be doubted whether it be proper to effect this by frequent ploughing, and intermixing too perfectly the surface with the inferior soil or clay. Nature, in all her operations, manures on the surface, and forms there the soil which is best adapted to the growth of vegetation; and if this is inverted by the plough, she reinstates it in its original position as soon as the land is permitted to remain undisturbed a sufficient length of time, by a process more rapid in warm weather, and on rich soil, where there is much vegetable matter; and slower where the land is less fertile, and the weather colder. This is strikingly exemplified by a fact well known to most farmers, viz: that when good land (particularly clover land) with a distinctly marked surface of dark soil is fallowed for wheat, sown with the harrow upon one ploughing, no permitted to lie a year or two in clover, after the crop of wheat, the dark soil is found again formed upon the surface, occupying the position in which the clay was left by the previous ploughing and the clay, that which was occupied by the inverted soil: a change of clay into soil, and soil into clay. A question naturally arises, what good results from forcing the land to this double process? I should think, none. Economy of labor, however, requires this to be done, as an expeditious mode of disposing of the vegetable matter, by burying it with the plough; but with one ploughing, the necessity ceases for that crop.

I have said that this process was more rapid on rich soils where there was much vegetable matter, and in warm weather, than on poorer soils and in cold weather. I suppose it accomplished by the gases evolved in the decomposition of the vegetable matter turned under by the plough. If the weather is warm, and the vegetation green, succulent and abundant, the decomposition is rapid, and the quantity of gas disengaged is great. Of these, the carbonic is deemed the great stimulant of vegetable life; and being heavier than atmospheric air, but lighter than the soil, it rises to the surface, insinuating itself into the interstices of the clay brought up by the plough, saturates it, and accomplishes the first process of its conversion into soil. Hence, the cause of a well known fact, that fallows made in June, July, and early in August, become many shades darker on the surface, although exposed to the scorching rays of a summer's sun, and prior to a renewed growth of vegetation upon them. Whilst it less frequently occurs on those made in September, and on those in October rarely, until the next year, vegetation being drier, less succulent, the days shorter, the nights longer and cooler, and every circumstance less favorable to a rapid decomposition in these months. A similar process has taken place on the corn land after the cultivation of the corn has ceased, and before seed time. The fertile appearance of these lands at that time is familiar to every one.[a]—This recently formed and forming soil, my experience has convinced me, is the proper surface for wheat. A second ploughing, or fallow intermixes it with the inferior soil, and the use of the large plough on corn land produces the same effect. I formerly believed two ploughings necessary as a perfect preparation for a wheat crop. When pressed for time, I used heavy harrows as a substitute for a second ploughing, often where there was a strong growth of summer grass: such portions have always produced more grain though perhaps less straw, than that which had been twice ploughed. I once fallowed twenty or thirty acres of land in February, ploughed it with a two horse plough whenever the grass and weeds grew in the summer—it was ploughed, in all, five times before seeding on the first of October, and although it suffered from no disaster, it produced a wretched crop for the year and the land. I have occasionally cultered and harrowed small pieces of land, and prepared them without turning the surface with the plough; and have, uniformly, found the straw brighter, and the wheat more in perfection, than on the adjacent land which had been ploughed, and the surface inverted, although both were very fine. In 1822, on four plantations then under my direction, the corn crop being very forward, about half of it was removed in September, and the land ploughed with three-horse ploughs. The preparation appeared to be perfect, the earth light and thoroughly pulverized, and the grass entirely rotted: the land was harrowed and then sown, and the seed harrowed in. In the mean time, the grass had continued to grow on the portions of the field not ploughed. When the seeding of the first was completed, the rest was sown among a heavy crop of grass, with scoops, merely scarifying the surface, for nothing more could be done: the whole process was tedious and unpromising, yet the perefect preparation by which the soil had been inverted by the large plough, pro-

duced a much inferior crop to the other: the result was the same at each plantation. In putting in wheat on corn land with small ploughs, I have often laid them aside for the large plough on account of the heavy coats of grass on rich spots, old tobacco lots, &c. resuming the small plough again on passing them. The product and appearance of those spots of better land thus prepared were always inferior to that of inferior land ploughed with the small plough. I could add many instances of a similar kind with similar results.

From my observations and experience, I deduce the following conclusion:

1. That to insure the best crop, lands, should be fallowed early, viz: before the middle of August.

2. That the surface acted upon by this process of a re-formation of soil, is the proper one into which the grain should be put.

3. That a second ploughing with a large plough in fallows, and its use in preparing corn land for wheat, is disadvantageous.—Nature, in both instances, has prepared a better surface than can be prepared by art.

4. That the mixing the newly formed soil, fully saturated with carbonic gas, with the inferior soil, prevents as quick and vigorous growth of wheat, and as early and as perfect maturity.

If the fallows have been ploughed early, and a crop of summer grass has grown upon them, they may be stirred with the small plough or coulter, if hard, or harrowed, if mellow, so as to pulverize and smooth the surface, without regarding the grass and the wheat sown among it. The first frost kills the grass, and it acts as beneficial covering to the wheat.[*b*] When the fallows are prepared, and the corn crop sufficiently forward to take off in September, the corn land may be ploughed with the small plough, and harrowed ready for seeding, and thus enable the farmer to put all his teams to the harrow, and sow a large crop in a few days. Selecting his own time for seeding, he may hope to expect the dangers of early and late fly, and do much to insure a fair crop from his land. In anticipation of this, it is desirable to plant a corn which will mature itself somewhat earlier than the kinds now cultivated. We have a corn in this neighborhood well adapted to this purpose, which yields well. If the corn is too late to commence removing in time to prepare your land in September, the balks can be broken before the corn is taken off. You will then, upon removing the corn in the latter end of the month, have only to plough the list and harrow the land, to be ready for seeding. If a proper seed bed is prepared, one harrowing is sufficient to cover the grain.[*c*] In the October of 1833, I had sown in this manner 300 acres in four days and a half, employing eight harrows with two horses each, and two with a yoke of oxen each; in all, ten harrows. The teams were never hurried until the last day for a few hours, when there was an appearance of rain. The same hands and teams were closely employed the next four days in putting in forty acres of rough corn land. This present month (October, 1835,) six days have been taken to put in three hundred and forty acres of land, eighty of which were rough with stone and stumps. The team employed the same.

When tobacco is cultivated as a mixed crop, the early corn ought to be planted.—It does not attain such size of stalk, and can be removed with less labor, severing it at the ground, and stacking it on the field without pulling the fooder or cutting the tops. Enough hay should be made to serve the farm, and the time given to tobacco and other operations which is usually spent unprofitably about the fodder. I am satisfied that corn is less injured to be cut up, with the fodder and top on, than to take them off and leave it standing in the field. In the first place it cures; in the latter, it withers. I have heard a judicious farmer estimate, as fair work, 200 lbs. per day, the average of hands employed in gathering and securing fodder; of hay, 1000 lbs. The use of the revolving horse-rake on smooth land would much increase the latter average. I am aware, that in recommending the stacking of corn on the field, I am running counter to the opinions of some of our best farmers. I would not recommend it where the corn could be housed; but when it cannot be done, from attention to the tobacco crop, lateness of ripening, or deficiency of labor, I deem it better to lose the ground covered by stalks, than the greater loss from late seeding. The injury of running your teams and carts over the fields in dry weather after the wheat is sown and up, in removing the corn, I estimate very lightly.

Note [*a*]. That this process must be effected by the action of the gases, is proven from the uniform fertility of grave yards.—Here the bodies do not come in contact with the surface. It must be by the generated gas forcing its way through the fresh dry earth. Would a culture of several feet make poor land rich? I think not. Manures never sink. Upon light, sandy soils, with too small a portion of clay to imbibe and retain the gases, they penetrate easily, and escape rapidly; such require frequent applications of manure, but in smaller quantities—it acts promptly, but evaporates with the culture of a crop. Stiff clays, deficient in aperient particles, are not sufficiently permeable to the gas; the particles become compacted together by rains so as to expel it before it can be sufficiently imbibed.—They close so completely over the manures as to exclude the air, and arrest their decomposition. Upon such soils, manure ploughed under may be found, two or three years after, retaining its original appearance, but its fertilizing principle gone; for such, straw, half rotted manures that act as a temporary aperient, are best. Sand, or some substitute for it, is necessary for its mechanical effects as an aperient to every good soil. Its excess makes a quick soil soon exhausted; its deficiency, a stiff, slow soil. In addition, there are, no doubt, chemical combinations in all soils, rendering some capable of fertility, others not.—The sterility of any soil may be temporarily overcome by the application of animal or vegetable manures. But, *quære:* Will not an originally poor soil, if made ever so rich by manures, left to itself without cultivation, lapse into its original sterility? and will not one, originally fertile, when exhausted, become rich if left undisturbed long enough?

[*b*]. Blue grass fallows will probably require a second ploughing to destroy it.—The first ploughing on this grass should always be made before the grass seeds, as the plants are easily destroyed if disturbed about the time of their seeding. If fallowing is postponed until July or August, the crop becomes very precarious. It will most frequently happen, that after much time and labor has been spent, it will be injured or destroyed by the turf. If such lands cannot be ploughed in May, or early in June, this grass may be destroyed, or crippled, by hard grazing from spring until June or July—it being a grass without aftermath, or ground leaf, each spire is a seed-bearing spire, and the grazing necessarily confined to these. and if it is not permitted to seed, it perishes. It is a grass never found upon commons, or on road sides, where it is perpetually grazed. It will probably be found, that grasses bear grazing in proportion to the quantity of ground leaf they put forth.

[*c*]. Some persons object to the harrow, as not covering the grain deep enough. If a grain of wheat is buried over 2 or 3 inches deep, it forms a joint near the surface from whence (if the plant is sown early, and the fall growth vigorous) it puts forth roots, and the spire and roots below that joint perish that fall, and the plant thrives by these surface roots.

From the New-England Farmer,

FARMERS' WORK.

Culture of Turnips.—If a top dressing of quick lime, soot or ashes be applied to turnips, soon after they make their appearance above ground, their growth will be forwarded, and it is said they will be secured against the fly. Some advise, and it may be well, if the time and labor can be spared to leach soot, and sprinkle the plants with the liquor. M'Mahon, in giving directions for the culture of turnips, says: "the plants should be left from seven to twelve inches apart; this must be regulated according to the strength of the land, the time of sowing, and the kind of turnips cultivated; strong ground and early sowing always producing the largest roots.

The width of the hoe should be in proportion to the medium distance to be left between the plants, and the distance should be according to their expected size.

The proper time for the first hoeing is, when the plants, as they lie spread on the ground are nearly the size of the palm of the hand. but if weeds are numerous and grow rapidly, they should be checked before the plants have attained that size, lest being drawn up thin and slender they should acquire a sickly habit.

Soiling laboring oxen and horses.—Instead of turning oxen and horses, which you have occasion to use frequently into a large pasture, in which it is difficult to find or to take them, you may do better to *soil them.* By soiling, we mean to keep them in stables, stalls, yards, &c. and mowing and carrying to them grass and other green or dry food. You should in such case, take care that they have always water at hand, and plenty of litter to absorb the liquid manure, unless you have reservoirs, &c. to prevent its waste. Arthur Young declared that "Lucerne is the best plant for soiling, and an acre of it will go farther than anything else." But clover or any other grass, green or dry, oats or Indian corn, cut up near the roots, cabbages, &c. &c. may often be economically disposed of in feeding cattle and horses, whose services are needed for the prosecution of the daily and hourly labors of the husbandman.

Fallen Fruit.—Be very careful to gather all punctured or decaying fruits, whether on your trees or on the ground, and give them to your swine. If you do not, the worms which such fruits contain, and which have been the cause of their premature decay, will make their escape into the ground, and you will find the evils, which wait on their visitations will increase on you another season.

GRAFTED TREES—Look over your fruit trees, which were grafted last spring, or budded this summer, and suffer no shoots from the stocks to remain; lest they rob your grafts of their nourishment.

WORMS IN THE HEAD OF SHEEP.—There exists in some parts, if not in all parts of the country, a species of fly, which naturalists denominate *oestrus ovis* or *sheep-bot*, of the same genus though of a different variety with the fly which deposits eggs on the hair of horses and causes bots in those animals. This fly attacks sheep from about the middle of August to the midele of September, deposits eggs in the nostrils of the animals, and cause those *worms in the head*, which so frequently destroy them. The Mechanic's Gazette recommends as a preventive, "covering the nostrils of the sheep with a gauzy substance, through which the animal can breathe, and keeping it in its place by some adhesive substance. We doubt, however, the practicability of keeping a gauzy substance in its place by any adhesive matter.

Another precaution which sheep owners assure us has been found effectual, is to keep the noses of sheep constantly smirched with tar from about the middle of August to the latter part of September. If the sheep swallow some of the tar, so much the better, as it prevents or cures the rot and confirms their health. In order the better to effect the smearing of the sheep's noses, the following process has been recommended: Mix a little fine salt with tar, just enough to make the tar agreeable to the animal, and place the mixture under cover, where the sheep can have access to it, and they will keep their noses sufficiently smeared to prevent the insect from attacking them.

From Hovey's Gardener's Magazine, for August.

GENERAL NOTICES.

METHOD OF PRESERVING PLANTS DURING A LONG VOYAGE.—The following letter was communicated to Messrs. G. C. R. and W. Fox & Co. by Capt. R. Gillies, of the ship Hibernia:—

In accordance with your wishes, I have much pleasure in describing to you the mode in which the plants brought by me from Calcutta were put up. The plants were all intended for the green-house in England, and, I presume, were of a delicate kind. Each plant was in a box, six inches square by one foot in depth, filled to the top with a kind of clay; and, no doubt, well saturated with water, previously to being put into the large outer box, which contained eight of these small ones.

The large box was constructed in the usual way; that is, a glazed roof about two feet high, the glass strong enough to resist the fall of a small rope, or other light body. It was hermetically closed with the common *Chunam* (a sort of lime, used in India as a cement for plastering houses, &c.) of the country, and was never opened during a voyage of five months. When we arrived in England the plants were all in beautiful health, and had grown to the full height of the case, the leaves pressing against the glass.

In dry weather, I always observed moisture within the glass, which was caused, no doubt, by the evaporation of the earth, and was again absorbed by the plants.

It is difficult to account for the perfect health of the plants, without the full admission of the atmosphere; but oxygen sufficient was probably admitted, either through the pores of the wood, or otherwise. It is however, a fact, that no water was given to them during the voyage, and that they were landed in excellent order.—*Robert Gillies Hibernia, Falmouth Harbor, October 2, 1835. The Third Annual Report of the Royal Cornwall Polytechnic Society*, Falmouth, 1835. 8vo. 2s. 6d.—Gard. Mag.)

THE HOUSE FLY.—At the Entomological Society, on Monday, a paper by Lieut. Col. Sykes was read, on excluding the house-fly. The mode adopted was a net made of different colored meshes, of about three quarters of an inch square, and which, when placed against a window, was found quite effectual in excluding the visits of these troublesome insects from the outside of the room. The same experiment was tried with meshes made of the finest black thread, one and a quarter inch square, which proved to be equally effectual. The approach of wasps was also prevented by the above mode, very few finding their way within the boundary. This was accounted for by an optical illusion in the eyes of the insect, of the highly magnifying power of vision, and the small focal length.

Now that netting can be procured at the low price of 2*l.* 1*s.* 3*d.* for thirty-three square yards, gardeners might try whether, by covering a hot-house with such a net, they could not exclude both birds and wasps.—They might also apply it over standard cherry trees, and over various kinds of newly sown seeds; and, lastly, they might place it before the windows of their own cottages, to exclude the common house-fly.—(Ib.)

WATER-PROOF STRANDS OF BAST, FOR TYING TREES, and WATER-PROOF BAST MATS.—In our Second Vol., p. 192, a mode of rendering ties of bast water-proof is mentioned by Dr. Van Mons; and, while recommending a trial of metallic ties, it is but fair that we should remind our readers of this very simple mode of increasing the durability of bast. To make bast ties water-proof, it is only necessary to wet them first with a solution of soap, and next with a solution of alum. A neutral compound is formed from the soap and alum, joined to the albumen of the wood of which the bast is composed, which is insoluble in water. It has often occurred to us, that, if common matting could be woven in Russia, with the weft of pack-thread, and the woof of strands of bast, mats would then throw off the rain nearly as well as canvass; and the whole might be tanned, or rendered water-proof, by Dr. Van Mons's process. Perhaps our friend at Cronstadt might be able to induce some of the Russian mat manufacturers to try this process.—(Ib)

CHENOPODIUM QUINOA.—This plant is cultivated in the warmer parts of North America, and extensively in Chili and Peru, its leaves being eaten as spinach or sorrel, and its seeds as rice. It is also used in the preparation of a kind of beer. Dombey, on his return from Peru, endeavored to introduce the plant as a culinary vegetable into France, but without success. From a dried specimen of the plant grown in England last year, and exhibited at a meeting of the Linnæan Society, by A. B. Lambert, Esq., V. P. L. S., it appeared, in habit, very like the strong growing British *chenopodiums*. But we should think the seeds are far too small to be ever equal in value to any of our cereals; and certainly inferior to the white beet as a substitute for spinach.—(Paxton's Magazine.)

AMOUNT OF FODDER THAT CAN BE RAISED ON AN ACRE OF LAND.

As a general rule in this part of the country, our farmers are satisfied if they obtain a ton of hay from an acre of land. This however is far from being the full amount which an acre is capable of producing even of hay; and if planted to some other kind of vegetable it hardly begins to be what can be obtained from the same surface.

Many farmers have raised as much as *fifty tons* of Ruta Baga from an acre. This however may be considered an extra crop—say half as much for a medium crop—that is 25 tons, which will amount to about 800 bushels. Cattle like such food in the winter exceedingly, it is green and succulent—it supplies the want of green grass and green herbage.—It is heavy, distends the stomach, and keeps them in good health, and saves a great deal of hay; and yet comparatively few farmers think of these things, or enter into the business with any kind of system which is based upon calculation.

There is another plant, which, although not so nutritious as the Ruta Baga, but is nevertheless eaten with great avidity by cattle in the winter season, and which will afford a large amount per acre, It is the *Cabbage*. These are easily raised, and according to the editor of the Baltimore Farmer and Gardener, will yield, allowing 10,000 to stand upon the acre, about *forty tons* of fodder. Notwithstanding the chance of obtaining this amount of fodder from a single acre—a man would be called crazy should he cultivate an *acre* of cabbage, however well he might do it.

The common English or flat turnip, which is cultivated so extensively in Europe, has received but little attention with us. It is true every one sows a patch or two. The cow-yard is oftentimes ploughed up and sowed down to them, or a corner of the garden—or some piece in the cornfield—but no man, or very few men would think of putting in an acre. An acre in England often yields 15 tons of turnips, and this amount would be equivalent, in nutritive matter, according to the analysis of Van Thaer to more than three tons of the best hay.

Many other crops of the kind might be cultivated exclusively for cattle food, which would yield more than treble the amount that could be obtained in the shape of hay, and which would be much more grateful to the cattle.

A new invention for brick making has been patented by one Sawyer. The bricks are made by it from dry clay, and are said to be superior to the common kind in beauty, strength and durability. The texture is much closer than that of the common brick, so that the article absorbs less water, takes paint much better, not requiring more than one half necessary in the old way, and stands fire much longer. The frost likewise does not operate on it, and bricks are turned out of the new machine, at one half the expense, or less, than by any other mode now in use.—[Pennsylvania paper.]

From the Genesee Farmer.

BREAKING VICIOUS COWS.

BY C. P.

Mr. Tucker—I noticed an article in the 27th No. of the Genesee Farmer, describing the manner in which a "vicious cow" was reclaimed. I think such instances very rare, for I have known many men to possess vicious cows for years, who never read nor never thought of their being reclaimed; it was the same thing year after year. They thought as much before hand of the job of attending to them, as of any other work they had to do. Milking, as far as my experience has extended, is considered one of the most, if not the most, unpleasant chores there is to be performed about a family, and above all things a kicking cow is to be dreaded. She is always worse in the worst weather, and one is in danger at every milking time of loosing all the profits of his labor, unless he can content himself to go through with some operation of making her secure where she can do no injury.

I should be very much in favor of breaking vicious cows when it is practicable, but I believe the attempt is seldom successful. I think it is the best way generally to dispose of them for beef, unless a man has a very valuable one, which will well recompense the labor of keeping her. But such an animal as a vicious cow a man never ought to *raise*—there is no need of it. If one necessarily comes upon his hands already made vicious, he is not to blame. I have long thought that there was a great defect in the mode which some farmers use to break their young cows. We never should undertake to milk a heifer out in the lot, or in a corner either of the open field or of the barn-yard, where there is any chance for her to escape, and oblige us to have a *race* before we can again go on with the operation of milking. One such attempt may spoil her for a gentle cow, for she will long recollect it, and will be doubly worse to manage the next time. I have heretofore passed by farm-houses, and seen two or three great lusty fellows to work in this way, paraded around a corner of the yard, each holding some sort of a cudgel in his hand, raised over the apparently harmless young heifer, while she stands to be milked, half scared, and trembling prodigiously for fear of the expected blow.—Now this is all wrong, and entirely unnecessary. They very much mistake the nature of the creature—she is not so to be tamed. It isthe regular course to make her vicious and ungovernable, and it will need but a few such operations.

I will suggest a plan which I invariably followed for four or five years with triumphant success, and when I changed my occupation, transmitted it to my successor with a special charge not to depart from it, during which time, and since which, (for I have been an eye witness of its faithful fulfillment,) I did not know, nor have not known, one single subject of its operation but what was or has been of the most harmless and peaceful disposition, so that man and boy, woman and girl, all, could perform the task of milking with equal ease and in equal security, either as it respects themselves or their pail of milk. And in such a case, every cow must not have her particular milker, whom when he is necessarily absent, or in any wise rendered incapable of performing this his ordinary labor, it requires two or three a half of an hour with clubs and stones, racing to and fro across the yard, to obtain her milk, or else she must go unmilked until her former master returns, or is sufficiently recovered to again enter upon his task. Some may have been acquainted with the plan long ago, but many to my knowledge do not now know it, or if they do, do not practice it: Drive the heifer and her calf carefully into the shed or stable, tie one end of a rope loosely around her horns, fasten the other end firmly to some post or staple, giving her a short play, and there let her stand.—Mind and not take her into any strange place, where cattle are not used to going. If she was accustomed to be led when a calf she will stand still, if not she will flounce around very briskly a short time at the length of the rope, but soon finding by experience that all is fast, she will immediately cool down. Then place before her a little mess, and commence milking while she is eating. Let there be no whip about, let there be no noise or blows, but every movement around her gentle and still.—When the oporation is completed, carefully untie her, open the door and let her out. One person is sufficient for the whole. Two is one too many, especially if she is a little wild, which however, ought never to be known among a farmer's cattle. She is now a cow, subdued and manageable,—all it requires is a few more such lessons, and I have the confidence to believe, from some experience too, that with a proper milker she will ever afterwards remain a gentle cow. She will be perfectly tame, so that you can lead her as well as a horse, and approach her in the field as well as in the yard.

There is a fault with some of our farmers in trusting the breaking of their heifers, and in fact the whole care of their cows, to boys. As a general thing they are not competent to perform the labor as it should be performed. It is often the case that they will get fretful while milking, and punish the cow most unmercifully when it is not due. The man should keep an eye to these things and see that all goes on in a proper manner. There is one universal fact occurs, and to which I presume hundreds can witness, when the management of the milk-yard is solely in the hands of boys—an immense deal of rubbish, clubs, broken rails, and strips of boards, and especially stones in abundance may be seen scattered all over the yard, and in case one wishes to correct his cow, he finds every thing in readiness. I have before now seen loads of such rubbish collected around farm-yards, and truly it does not present a very neat looking appearance. Those farmers, therefore, who cannot well take the management of these affairs to themselves, if they wish to have their cows thrive, keep in good order, and gently treated, are advised to keep their yards clear of all these weapons, so as to remove even the temptation to evil. And nothing will give a stranger a better opinion of a farmer as he passes by, than to see every thing look neat and clean around his dwelling and barns. From this circumstance he will draw the inference, that it is so all over his farm, and he will always call that man a *neat* farmer.

H———e, July 16, 1836.

From the Genesee Farmer.

INFORMATION WANTED.

BY A YOUNG FARMER.

Ever since the introduction of the Saxon Merino into the country, there has existed a considerable difference of opinion among the breeders of sheep, and wool growers, as to their relative value, when compared with the Spanish Merino previously existing among us; some maintaining that they are more profitable than the Spanish, while others as strenuously contend that the advantage is on the side of the latter. The advocates of the Saxony breed insist that the superior fineness of the wool and the consequently higher price it commands, will more than compensate the deficiency in quantity of fleece, lightness of body, and tenderness in keeping, charged as faults upon them by the friends of Spanish Merino.

As wool growing is becoming an important and profitable branch of American industry, it is very desirable that the points in crotroversy between the two breeds of sheep should be early and correctly settled, that those who are entering upon the business may have certain data to go upon, and not encounter the losses usually attendant on undigested speculations. The points of difference which should be settled, and on which we as farmers require information, may be included in the following queries, viz: Does the Spanish Merino on the average clip a greater amount of wool than the Saxony; and if so how much? Does the Saxon wool on an average command a higher price than the Spanish; and if so, how much? Is the number of sheep lost—the average number we mean—greater in a year in one hundred Saxons, than in one hundred Merinos? Is the number of lambs raised from one hundred Merino ewes greater on the average than from the same number of Saxon ewes?—and if so, what is the rate of difference? Does the Spanish Merino usually weigh more than the Saxon, and for slaughtering command a greater price?—and if so, what will be the average difference between the weight and value of one hundred of each kind? In all these queries and estimates, it will of course be understood that full blooded animals of each kind are intended.

There have already been a number of excellent articles on sheep given to the public in the Farmer; but they relate principally to the best mode of treatment, diseases, &c., and do not enter fully into the points suggested above, and on which at the present time information is particularly desired. Some few writers have incidentally touched them, and to show what the opinion of some practical men has been, we give here an extract or two from some

last year; the spurred one I cut away altogether, and spur the two which had only fruited one year, with two of the young shoots, which will leave two for cutting down, to produce four young shoots again. Now it will be seen that I have always two spurred shoots, and two young shoots fruiting, and two to cut down; which is not only a regular method of pruning, but one which will keep the vines in a far more growing state, than the common methods of having so much old wood upon them. It will be seen by this regular method of winter pruning, that the summer pruning can be done in much less time, which is also an advantage, by my method of performing; which is, to pinch off all the laterals which may appear below the fruit, and one bud above it; continuing to pinch off all above the next bud, as the plants grow, for the whole season. With regard to the number of branches which I would allow to grow on each fruiting spur, it should be all that set well, as the vines will be able to bring to maturity almost all the fruit they show, if treated in the manner I have endeavored to describe."

Article 11 is a plan for growing Potatoes and Dahlias on the same ground and in the same season. We believe this system is pursued by some of the florists in Philadelphia; at least, we have been so informed. We have no doubt it will answer well; and to some persons who wish to combine the useful and ornamental, and who have but a limited piece of ground, it may prove an excellent mode.

"In the autumn, when the leaves have nearly all fallen from the trees and shrubs, and the seeding weeds are near coming to seed, I fork over all the spare ground where crops have been growing, which leaves it in a neat state during the winter. In February I plant my potatoes (the early Shaws,) which I generally put into the ground whole; but, if the potato is large, I divide it by drawing the knife through the middle of the cluster of eyes at the end of the potato. I begin planting the large beds, having the first row a convenient distance from the edge; after setting down the line, I dig a trench without treading upon the spade, and, as I come back, clean out the trench to about four inches deep. I put in the sets, then remove the line three feet or three feet and a half, and dig another trench in the same manner, having a wooden rake by me to pull in the earth over the sets, and rake the ground even as the work of planting goes on. I next remove the line two feet, and dig another trench, which leaves but sufficient space for the moulding up of the potatoes. I next remove the line three or three and a half feet, and so on. As soon as the potatoes are grown a sufficient height to be seen, I fork the ground one fork wide on each side of the row, by thrusting in the fork and pressing it down, so as to raise the earth, and thus leave it, not to throw it out. When the plants are sufficiently high, I mould them up, observing to mould them highest on the wide side, so as to to give the stalks an inclination to fall between the narrow rows, where they are to be kept, so that one side of each row may have the full benefit of light and air—About the middle of May, I put on between the wide rows a slight coat of dung, and dig it in close to the moulding of potatoes. By this plan he potatoes do not get at the dung, until they they are in a fit state to bear it without injuring their flavor. I plan the dahlias five feet asunder between the wide sows of potatoes, placing a stake about two feet high to each plant, for the purpose of supporting it, and marking the place where a taller stake is afterwards to be placed. In July and August the potatoes are taken up, and the ground cleared. If the weather should be dry, and the dahlias likely to require water, I then make basins round the plants before levelling the soil. Since I have adopted this plan, I have had a more abundant crop of potatoes, and of better flavor; and, instead of the ground appearing as if lying waste after they are gathered, I have something to look at. As my garden rises on each side from the centre walk, I can assure you the dahlias, when the colors are well mixed, make a very pretty appearance."

From the Farmers' Register.

ON THE CULTURE OF WHEAT.

By Th. J. Randolph.

READ BEFORE THE AGRICULTURAL SOCIETY OF ALBEMARLE, AND ORDERED TO BE PUBLISHED IN THE FARMERS' REGISTER.

In obedience to a resolution of this Society, appointing essayists at their October meeting, in 1835, I have the honor to submit the following communication upon the culture of wheat.

Although deep culture is important, if not indispensable with all plants, to permit their roots to penetrate the soil freely in search of food and moisture, and to allow the water in heavy rains to subside without abrading and gulleying undulating lands, or drowning those that are level, it may be doubted whether it be proper to effect this by frequent ploughing, and intermixing too perfectly the surface with the inferior soil or clay. Nature, in all her operations, manures on the surface, and forms there the soil which is best adapted to the growth of vegetation; and if this is inverted by the plough, she reinstates it in its original position as soon as the land is permitted to remain undisturbed a sufficient length of time, by a process more rapid in warm weather, and on rich soil, where there is much vegetable matter; and slower where the land is less fertile, and the weather colder. This is strikingly exemplified by a fact well known to most farmers, viz: that when good land (particularly clover land) with a distinctly marked surface of dark soil is fallowed for wheat, sown with the narrow upon one ploughing, not permitted to lie a year or two in clover, after the crop of wheat, the dark soil is found again formed upon the surface, occupying the position in which the clay was left by the previous ploughing and the clay, that which was occupied by the inverted soil: a change of clay into soil, and soil into clay. A question naturally arises, what good results from forcing the land to this double process? I should think, none. Economy of labor, however, requires this to be done, as an expeditious mode of disposing of the vegetable matter, by burying it with the plough; but with one ploughing, the necessity ceases for that crop.

I have said that this process was more rapid on rich soils where there was much vegetable matter, and in warm weather, than on poorer soils and in cold weather. I suppose it accomplished by the gases evolved in the decomposition of the vegetable matter turned under by the plough. If the weather is warm, and the vegetation green, succulent and abundant, the decomposition is rapid, and the quantity of gas disengaged is great. Of these, the carbonic is deemed the great stimulant of vegetable life; and being heavier than atmospheric air, but lighter than the soil, it rises to the surface, insinuating itself into the interstices of the clay brought up by the plough, saturates it, and accomplishes the first process of its conversion into soil. Hence, the cause of a well known fact, that fallows made in June, July, and early in August, become many shades darker on the surface, although exposed to the scorching rays of a summer's sun, and prior to a renewed growth of vegetation upon them. Whilst it less frequently occurs on those made in September, and on those in October rarely, until the next year, vegetation being drier, less succulent, the days shorter, the nights longer and cooler, and every circumstance less favorable to a rapid decomposition in these months. A similar process has taken place on the corn land after the cultivation of the corn has ceased, and before seed time. The fertile appearance of these lands at that time is familiar to every one.[a]—This recently formed and forming soil, my experience has convinced me, is the proper surface for wheat. A second ploughing, or fallow intermixes it with the inferior soil, and the use of the large plough on corn land produces the same effect. I formerly believed two ploughings necessary as a perfect preparation for a wheat crop. When pressed for time, I used heavy harrows as a substitute for a second ploughing, often where there was a strong growth of summer grass: such portions have always produced more grain though perhaps less straw, than that which had been twice ploughed. I once fallowed twenty or thirty acres of land in February, ploughed it with a two horse plough whenever the grass and weeds grew in the summer—it was ploughed, in all, five times before seeding on the first of October, and although it suffered from no disaster, it produced a wretched crop for the year and the land. I have occasionally cultered and harrowed small pieces of land, and prepared them without turning the surface with the plough; and have, uniformly, found the straw brighter, and the wheat more in perfection, than on the adjacent land which had been ploughed, and the surface inverted, although both were very fine. In 1822, on four plantations then under my direction, the corn crop being very forward, about half of it was removed in September, and the land ploughed with three-horse ploughs. The preparation appeared to be perfect, the earth light and thoroughly pulverized, and the grass entirely rotted: the land was harrowed and then sown, and the seed harrowed in. In the mean time, the grass had continued to grow on the portions of the field not ploughed. When the seeding of the first was completed, the rest was sown among a heavy crop of grass, with scoops, merely scarifying the surface, for nothing more could be done: the whole process was tedious and unpromising, yet the perefect preparation by which the soil had been inverted by the large plough, pro-

duced a much inferior crop to the other: the result was the same at each plantation. In putting in wheat on corn land with small ploughs, I have often laid them aside for the large plough on account of the heavy coats of grass on rich spots, old tobacco lots, &c. resuming the small plough again on passing them. The product and appearance of those spots of better land thus prepared were always inferior to that of inferior land ploughed with the small plough. I could add many instances of a similar kind with similar results.

From my observations and experience, I deduce the following conclusion:

1. That to insure the best crop, lands, should be fallowed early, viz: before the middle of August.

2. That the surface acted upon by this process of a re-formation of soil, is the proper one into which the grain should be put.

3. That a second ploughing with a large plough in fallows, and its use in preparing corn land for wheat, is disadvantageous.—Nature, in both instances, has prepared a better surface than can be prepared by art.

4. That the mixing the newly formed soil, fully saturated with carbonic gas, with the inferior soil, prevents as quick and vigorous growth of wheat, and as early and as perfect maturity.

If the fallows have been ploughed early, and a crop of summer grass has grown upon them, they may be stirred with the small plough or coulter, if hard, or harrowed, if mellow, so as to pulverize and smooth the surface, without regarding the grass and the wheat sown among it. The first frost kills the grass, and it acts as beneficial covering to the wheat.[*b*] When the fallows are prepared, and the corn crop sufficiently forward to take off in September, the corn land may be ploughed with the small plough, and harrowed ready for seeding, and thus enable the farmer to put all his teams to the harrow, and sow a large crop in a few days. Selecting his own time for seeding, he may hope to expect the dangers of early and late fly, and do much to insure a fair crop from his land. In anticipation of this, it is desirable to plant a corn which will mature itself somewhat earlier than the kinds now cultivated. We have a corn in this neighborhood well adapted to this purpose, which yields well. If the corn is too late to commence removing in time to prepare your land in September, the balks can be broken before the corn is taken off. You will then, upon removing the corn in the latter end of the month, have only to plough the list and harrow the land, to be ready for seeding. If a proper seed bed is prepared, one harrowing is sufficient to cover the grain.[*c*] In the October of 1833, I had sown in this manner 300 acres in four days and a half, employing eight harrows with two horses each, and two with a yoke of oxen each; in all, ten harrows. The teams were never hurried until the last day for a few hours, when there was an appearance of rain. The same hands and teams were closely employed the next four days in putting in forty acres of rough corn land. This present month (October, 1835,) six days have been taken to put in three hundred and forty acres of land, eighty of which were rough with stone and stumps. The team employed the same.

When tobacco is cultivated as a mixed crop, the early corn ought to be planted.—It does not attain such size of stalk, and can be removed with less labor, severing it at the ground, and stacking it on the field without pulling the fodder or cutting the tops. Enough hay should be made to serve the farm, and the time given to tobacco and other operations which is usually spent unprofitably about the fodder. I am satisfied that corn is less injured to be cut up, with the fodder and top on, than to take them off and leave it standing in the field. In the first place it cures; in the latter, it withers. I have heard a judicious farmer estimate, as fair work, 200 lbs. per day, the average of hands employed in gathering and securing fodder; of hay, 1000 lbs. The use of the revolving horse rake on smooth land would much increase the latter average. I am aware, that in recommending the stacking of corn on the field, I am running counter to the opinions of some of our best farmers. I would not recommend it where the corn could be housed; but when it cannot be done, from attention to the tobacco crop, lateness of ripening, or deficiency of labor, I deem it better to lose the ground covered by stalks, than the greater loss from late seeding. The injury of running your teams and carts over the fields in dry weather after the wheat is sown and up, in removing the corn, I estimate very lightly.

Note [*a*]. That this process must be effected by the action of the gases, is proven from the uniform fertility of grave yards.—Here the bodies do not come in contact with the surface. It must be by the generated gas forcing its way through the fresh dry earth. Would a culture of several feet make poor land rich? I think not. Manures never sink. Upon light, sandy soils, with too small a portion of clay to imbibe and retain the gases, they penetrate easily, and escape rapidly; such require frequent applications of manure, but in smaller quantities—it acts promptly, but evaporates with the culture of a crop. Stiff clays, deficient in aperient particles, are not sufficiently permeable to the gas; the particles become compacted together by rains so as to expel it before it can be sufficiently imbibed.—They close so completely over the manures as to exclude the air, and arrest their decomposition. Upon such soils, manure ploughed under may be found, two or three years after, retaining its original appearance, but its fertilizing principle gone; for such, straw, half rotted manures that act as a temporary aperient, are best. Sand, or some substitute for it, is necessary for its mechanical effects as an aperient to every good soil. Its excess makes a quick soil soon exhausted; its deficiency, a stiff, slow soil. In addition, there are, no doubt, chemical combinations in all soils, rendering some capable of fertility, others not.—The sterility of any soil may be temporarily overcome by the application of animal or vegetable manures. But, *quære:* Will not an originally poor soil, if made ever so rich by manures, left to itself without cultivation, lapse into its original sterility? and will not one, originally fertile, when exhausted, become rich if left undisturbed long enough?

[*b*]. Blue grass fallows will probably require a second ploughing to destroy it.—The first ploughing on this grass should always be made before the grass seeds, as the plants are easily destroyed if disturbed about the time of their seeding. If fallowing is postponed until July or August, the crop becomes very precarious. It will most frequently happen, that after much time and labor has been spent, it will be injured or destroyed by the turf. If such lands cannot be ploughed in May, or early in June, this grass may be destroyed, or crippled, by hard grazing from spring until June or July—it being a grass without aftermath, or ground leaf, each spire is a seed-bearing spire, and the grazing necessarily confined to these. and if it is not permitted to seed, it perishes. It is a grass never found upon commons, or on road sides, where it is perpetually grazed. It will probably be found, that grasses bear grazing in proportion to the quantity of ground leaf they put forth.

[*c*]. Some persons object to the harrow, as not covering the grain deep enough. If a grain of wheat is buried over 2 or 3 inches deep, it forms a joint near the surface, from whence (if the plant is sown early, and the fall growth vigorous) it puts forth roots, and the spire and roots below that joint perish that fall, and the plant thrives by these surface roots.

From the New-England Farmer,

FARMERS' WORK.

Culture of Turnips.—If a top dressing of quick lime, soot or ashes be applied to turnips, soon after they make their appearance above ground, their growth will be forwarded, and it is said they will be secured against the fly. Some advise, and it may be well, if the time and labor can be spared to leach soot, and sprinkle the plants with the liquor. M'Mahon, in giving directions for the culture of turnips, says: "the plants should be left from seven to twelve inches apart; this must be regulated according to the strength of the land, the time of sowing, and the kind of turnips cultivated; strong ground and early sowing always producing the largest roots.

The width of the hoe should be in proportion to the medium distance to be left between the plants, and the distance should be according to their expected size.

The proper time for the first hoeing is, when the plants, as they lie spread on the ground are nearly the size of the palm of the hand. but if weeds are numerous and grow rapidly, they should be checked before the plants have attained that size, lest being drawn up thin and slender they should acquire a sickly habit.

Soiling laboring oxen and horses.—Instead of turning oxen and horses, which you have occasion to use frequently into a large pasture, in which it is difficult to find or to take them, you may do better to *soil them.* By soiling, we mean to keep them in stables, stalls, yards, &c. and mowing and carrying to them grass and other green or dry food. You should in such case, take care that they have always water at hand, and plenty of litter to absorb the liquid manure, unless you have reservoirs, &c. to prevent its waste. Arthur Young declared that "Lucerne is the best plant for soiling, and an acre of it will go farther than anything else." But clover or any other grass, green or dry, oats or Indian corn, cut up near the roots, cabbages, &c. &c. may often be economically disposed of in feeding cattle and horses, whose services are needed for the prosecution of the daily and hourly labors of the husbandman.

Fallen Fruit.—Be very careful to gather all punctured or decaying fruits, whether on your trees or on the ground, and give them to your swine. If you do not, the worms which such fruits contain, and which have been the cause of their prenature decay, will make their escape into the ground, and you will find the evils, which wait on their visitations will increase on you another season.

Grafted Trees—Look over your fruit trees, which were grafted last spring, or budded this summer, and suffer no shoots from the stocks to remain; lest they rob your grafts of their nourishment.

Worms in the head of Sheep.—There exists in some parts, if not in all parts of the country, a species of fly, which naturalists denominate *oestrus ovis* or *sheep-bot*, of the same genus though of a different variety with the fly which deposits eggs on the hair of horses and causes bots in those animals. This fly attacks sheep from about the middle of August to the midele of September, deposits eggs in the nostrils of the animals, and cause those *worms in the head*, which so frequently destroy them. The Mechanic's Gazette recommends as a preventive, "covering the nostrils of the sheep with a gauzy substance, through which the animal can breathe, and keeping it in its place by some adhesive substance. We doubt, however, the practicability of keeping a gauzy substance in its place by any adhesive matter.

Another precaution which sheep owners assure us has been found effectual, is to keep the noses of sheep constantly smirched with tar from about the middle of August to the latter part of September. If the sheep swallow some of the tar, so much the better, as it prevents or cures the rot and confirms their health. In order the better to effect the smearing of the sheep's noses, the following process has been recommended: Mix a little fine salt with tar, just enough to make the tar agreeable to the animal, and place the mixture under cover, where the sheep can have access to it, and they will keep their noses sufficiently smeared to prevent the insect from attacking them.

From Hovey's Gardener's Magazine, for August.

GENERAL NOTICES.

—Method of preserving plants during a long voyage.—The following letter was communicated to Messrs. G. C. R. and W. Fox & Co. by Capt. R. Gillies, of the ship Hibernia:—

In accordance with your wishes, I have much pleasure in describing to you the mode in which the plants brought by me from Calcutta were put up. The plants were all intended for the green-house in England, and, I presume, were of a delicate kind. Each plant was in a box, six inches square by one foot in depth, filled to the top with a kind of clay; and, no doubt, well saturated with water, previously to being put into the large outer box, which contained eight of these small ones.

The large box was constructed in the usual way; that is, a glazed roof about two feet high, the glass strong enough to resist the fall of a small rope, or other light body. It was hermetically closed with the common *Chunam* (a sort of lime, used in India as a cement for plastering houses, &c.) of the country, and was never opened during a voyage of five months. When we arrived in England the plants were all in beautiful health, and had grown to the full height of the case, the leaves pressing against the glass.

In dry weather, I always observed moisture within the glass, which was caused, no doubt, by the evaporation of the earth, and was again absorbed by the plants.

It is difficult to account for the perfect health of the plants, without the full admission of the atmosphere; but oxygen sufficient was probably admitted, either through the pores of the wood, or otherwise. It is however, a fact, that no water was given to them during the voyage, and that they were landed in excellent order.—*Robert Gillies Hibernia, Falmouth Harbor, October 2, 1835.* (*The Third Annual Report of the Royal Cornwall Polytechnic Society*, Falmouth, 1835. 8vo. 2*s.* 6*d.*—Gard. Mag.)

The House Fly.—At the Entomological Society, on Monday, a paper by Lieut. Col. Sykes was read, on excluding the house-fly. The mode adopted was a net made of different colored meshes, of about three quarters of an inch square, and which, when placed against a window, was found quite effectual in excluding the visits of these troublesome insects from the outside of the room. The same experiment was tried with meshes made of the finest black thread, one and a quarter inch square, which proved to be equally effectual. The approach of wasps was also prevented by the above mode, very few finding their way within the boundary. This was accounted for by an optical illusion in the eyes of the insect, of the highly magnifying power of vision, and the small focal length.

Now that netting can be procured at the low price of 2*l.* 1*s.* 3*d.* for thirty-three square yards, gardeners might try whether, by covering a hot-house with such a net, they could not exclude both birds and wasps.—They might also apply it over standard cherry trees, and over various kinds of newly sown seeds; and, lastly, they might place it before the windows of their own cottages, to exclude the common house-fly.—(Ib.)

Water-proof strands of bast, for tying trees, and water-proof bast mats.—In our Second Vol., p. 192, a mode of rendering ties of bast water-proof is mentioned by Dr. Van Mons; and, while recommending a trial of metallic ties, it is but fair that we should remind our readers of this very simple mode of increasing the durability of bast. To make bast ties water-proof, it is only necessary to wet them first with a solution of soap, and next with a solution of alum. A neutral compound is formed from the soap and alum, joined to the albumen of the wood of which the bast is composed, which is insoluble in water. It has often occurred to us, that, if common matting could be woven in Russia, with the weft of pack-thread, and the woof of strands of bast, mats would then throw off the rain nearly as well as canvass; and the whole might be tanned, or rendered water-proof, by Dr. Van Mons's process. Perhaps our friend at Cronstadt might be able to induce some of the Russian mat manufacturers to try this process.—(Ib.)

Chenopodium Quinoa.—This plant is cultivated in the warmer parts of North America, and extensively in Chili and Peru, its leaves being eaten as spinach or sorrel, and its seeds as rice. It is also used in the preparation of a kind of beer. Dombey, on his return from Peru, endeavored to introduce the plant as a culinary vegetable into France, but without success. From a dried specimen of the plant grown in England last year, and exhibited at a meeting of the Linnæan Society, by A. B. Lambert, Esq., V. P. L. S., it appeared, in habit, very like the strong growing British *chenopodiums*, but we should think the seeds are far too small to be ever equal in value to any of our cereals; and certainly inferior to the white beet as a substitute for spinach.—(Paxton's Magazine.)

AMOUNT OF FODDER THAT CAN BE RAISED ON AN ACRE OF LAND.

As a general rule in this part of the country, our farmers are satisfied if they obtain a ton of hay from an acre of land. This however is far from being the full amount which an acre is capable of producing even of hay; and if planted to some other kind of vegetable it hardly begins to be what can be obtained from the same surface.

Many farmers have raised as much as *fifty tons* of Ruta Baga from an acre. This however may be considered an extra crop—say half as much for a medium crop—that is 25 tons, which will amount to about 800 bushels. Cattle like such food in the winter exceedingly, it is green and succulent—it supplies the want of green grass and green herbage.—It is heavy, distends the stomach, and keeps them in good health, and saves a great deal of hay; and yet comparatively few farmers think of these things, or enter into the business with any kind of system which is based upon calculations.

There is another plant, which, although not so nutritious as the Ruta Baga, but is nevertheless eaten with great avidity by cattle in the winter season, and which will afford a large amount per acre, It is the *Cabbage*. These are easily raised, and according to the editor of the Baltimore Farmer and Gardener, will yield, allowing 10,000 to stand upon the acre, about *forty tons* of fodder. Notwithstanding the chance of obtaining this amount of fodder from a single acre—a man would be called crazy should he cultivate an *acre* of cabbage, however well he might do it.

The common English or flat turnip, which is cultivated so extensively in Europe, has received but little attention with us. It is true every one sows a patch or two. The cow-yard is oftentimes ploughed up and sowed down to them, or a corner of the garden—or some piece in the cornfield—but no man, or very few men would think of putting in an acre. An acre in England often yields 15 tons of turnips, and this amount would be equivalent, in nutritive matter, according to the analysis of Van Thaer to more than three tons of the best hay.

Many other crops of the kind might be cultivated exclusively for cattle food, which would yield more than treble the amount that could be obtained in the shape of hay, and which would be much more grateful to the cattle.

A new invention for brick making has been patented by one Sawyer. The bricks are made by it from dry clay, and are said to be superior to the common kind in beauty, strength and durability. The texture is much closer than that of the common brick, so that the article absorbs less water, takes paint much better, not requiring more than one half necessary in the old way, and stands fire much longer. The frost likewise does not operate on it, and bricks are turned out of the new machine, at one half the expense, or less, than by any other mode now in use.—[Pennsylvania paper.]

From the Genesee Farmer.

BREAKING VICIOUS COWS.

BY C. P.

Mr. Tucker—I noticed an article in the 27th No. of the Genesee Farmer, describing the manner in which a "vicious cow" was reclaimed. I think such instances very rare, for I have known many men to possess vicious cows for years, who never read nor never thought of their being reclaimed; it was the same thing year after year. They thought as much before hand of the job of attending to them, as of any other work they had to do. Milking, as far as my experience has extended, is considered one of the most, if not the most, unpleasant chores there is to be performed about a family, and above all things a kicking cow is to be dreaded. She is always worse in the worst weather, and one is in danger at every milking time of loosing all the profits of his labor, unless he can content himself to go through with some operation of making her secure where she can do no injury.

I should be very much in favor of breaking vicious cows when it is practicable, but I believe the attempt is seldom successful. I think it is the best way generally to dispose of them for beef, unless a man has a very valuable one, which will well recompense the labor of keeping her. But such an animal as a vicious cow a man never ought to *raise*—there is no need of it. If one necessarily comes upon his hands already made vicious, he is not to blame. I have long thought that there was a great defect in the mode which some farmers use to break their young cows. We never should undertake to milk a heifer out in the lot, or in a corner either of the open field or of the barn-yard, where there is any chance for her to escape, and oblige us to have a *race* before we can again go on with the operation of milking. One such attempt may spoil her for a gentle cow, for she will long recollect it, and will be doubly worse to manage the next time. I have heretofore passed by farm-houses, and seen two or three great lusty fellows to work in this way, paraded around a corner of the yard, each holding some sort of a cudgel in his hand, raised over the apparently harmless young heifer, while she stands to be milked, half scared, and trembling prodigiously for fear of the expected blow.—Now this is all wrong, and entirely unnecessary. They very much mistake the nature of the creature—she is not so to be tamed. It isthe regular course to make her vicious and ungovernable, and it will need but a few such operations.

I will suggest a plan which I invariably followed for four or five years with triumphant success, and when I changed my occupation, transmitted it to my successor with a special charge not to depart from it, during which time, and since which, (for I have been an eye witness of its faithful fulfillment,) I did not know, nor have not known, one single subject of its operation but what was or has been of the most harmless and peaceful disposition, so that man and boy, woman and girl, all, could perform the task of milking with equal ease and in equal security, either as it respects themselves or their pail of milk. And in such a case, every cow must not have her particular milker, whom when he is necessarily absent, or in any wise rendered incapable of performing this his ordinary labor, it requires two or three a half of an hour with clubs and stones, racing to and fro across the yard, to obtain her milk, or else she must go unmilked until her former master returns, or is sufficiently recovered to again enter upon his task. Some may have been acquainted with the plan long ago, but many to my knowledge do not now know it, or if they do, do not practice it: Drive the heifer and her calf carefully into the shed or stable, tie one end of a rope loosely around her horns, fasten the other end firmly to some post or staple, giving her a short play, and there let her stand.—Mind and not take her into any strange place, where cattle are not used to going. If she was accustomed to be led when a calf she will stand still, if not she will flounce around very briskly a short time at the length of the rope, but soon finding by experience that all is fast, she will immediately cool down. Then place before her a little mess, and commence milking while she is eating. Let there be no whip about, let there be no noise or blows, but every movement around her gentle and still.—When the oporation is completed, carefully untie her, open the door and let her out. One person is sufficient for the whole. Two is one too many, especially if she is a little wild, which however, ought never to be known among a farmer's cattle. She is now a cow, subdued and manageable,—all it requires is a few more such lessons, and I have the confidence to believe, from some experience too, that with a proper milker she will ever afterwards remain a gentle cow. She will be perfectly tame, so that you can lead her as well as a horse, and approach her in the field as well as in the yard.

There is a fault with some of our farmers in trusting the breaking of their heifers, and in fact the whole care of their cows, to boys. As a general thing they are not competent to perform the labor as it should be performed. It is often the case that they will get fretful while milking, and punish the cow most unmercifully when it is not due. The man should keep an eye to these things and see that all goes on in a proper manner. There is one universal fact occurs, and to which I presume hundreds can witness, when the management of the milk-yard is solely in the hands of boys—an immense deal of rubbish, clubs, broken rails, and strips of boards, and especially stones in abundance may be seen scattered all over the yard, and in case one wishes to correct his cow, he finds every thing in readiness. I have before now seen loads of such rubbish collected around farm-yards, and truly it does not present a very neat looking appearance. Those farmers, therefore, who cannot well take the management of these affairs to themselves, if they wish to have their cows thrive, keep in good order, and gently treated, are advised to keep their yards clear of all these weapons, so as to remove even the temptation to evil. And nothing will give a stranger a better opinion of a farmer as he passes by, than to see every thing look neat and clean around his dwelling and barns. From this circumstance he will draw the inference, that it is so all over his farm, and he will always call that man a *neat* farmer.

H———e, July 16, 1836.

From the Genesee Farmer.

INFORMATION WANTED.

BY A YOUNG FARMER.

Ever since the introduction of the Saxon Merino into the country, there has existed a considerable difference of opinion among the breeders of sheep, and wool growers, as to their relative value, when compared with the Spanish Merino previously existing among us; some maintaining that they are more profitable than the Spanish, while others as strenuously contend that the advantage is on the side of the latter. The advocates of the Saxony breed insist that the superior fineness of the wool and the consequently higher price it commands, will more than compensate the deficiency in quantity of fleece, lightness of body, and tenderness in keeping, charged as faults upon them by the friends of Spanish Merino.

As wool growing is becoming an important and profitable branch of American industry, it is very desirable that the points in crotroversy between the two breeds of sheep should be early and correctly settled, that those who are entering upon the business may have certain data to go upon, and not encounter the losses usually attendant on undigested speculations. The points of difference which should be settled, and on which we as farmers require information, may be included in the following queries, viz: Does the Spanish Merino on the average clip a greater amount of wool than the Saxony; and if so how much? Does the Saxon wool on an average command a higher price than the Spanish; and if so, how much? Is the number of sheep lost—the average number we mean—greater in a year in one hundred Saxons, than in one hundred Merinos? Is the number of lambs raised from one hundred Merino ewes greater on the average than from the same number of Saxon ewes?—and if so, what is the rate of difference? Does the Spanish Merino usually weigh more than the Saxon, and for slaughtering command a greater price?—and if so, what will be the average difference between the weight and value of one hundred of each kind? In all these queries and estimates, it will of course be understood that full blooded animals of each kind are intended.

There have already been a number of excellent articles on sheep given to the public in the Farmer; but they relate principally to the best mode of treatment, diseases, &c., and do not enter fully into the points suggested above, and on which at the present time information is particularly desired. Some few writers have incidentally touched them, and to show what the opinion of some practical men has been, we give here an extract or two from some

communications. Mr. Z. Barton Stout says—"In proportion to my ewes I have not succeeded in rearing an equal number of lambs for several years past, as I did before the intermingling of the Saxon sheep." "It is well known that some large flocks along the Genesee river, have, for some years past, deteriorated rapidly; and it is not unworthy of inquiry, how far the cause assigned, (the introduction of Saxon blood,) may have occasioned this deterioration." Mr. Jarvis, of Vermont, whose opinion may be relied on in this matter, he having been for a great number of years extensively engaged in sheep and wool growing, says, in an articles in Niles' Register, speaking of some pure Saxon imported sheep, "I put eight of these bucks to three hundred Merino ewes, and the progeny was more feeble than I ever witnessed from Merino bucks. I did not raise more than three lambs from five ewes, for two successive years; and in putting full blood Saxony bucks to the ewes thus crossed, I have not raised more than two lambs to five ewes. I have been still more unsuccessful in raising lambs from the full blood Saxon ewes and buck, although they have been rather better kept than my other sheep. From my full blooded Merino stock, my increase was commonly nine lambs to ten ewes, and never less than four lambs to five ewes, and my Merino bucks had always been selected for fineness and weight of fleece, and shape, from my own stock." As a reason for this difficulty of rearing, Mr. Jarvis says—"The form of the sheep will satisfy an experienced agriculturist of the true cause. They are long legged, thin quartered, flat sided, narrow boned, not sufficiently deep chested, and long necked. All domestic animals of this shape have feeble constitutions." The cause assigned by Mr. Jarvis for this constitutional defect is this: the persons employed by the elector of Saxony to make the selections from the Merino flocks in Spain, made fineness of wool the principal object, "and selected the finest wooled sheep without any reference to form of carcass or weight of fleece. In this they have succeeded, for the Saxony wool is certainly finer than the Spanish; but the latter will yield, sheep for sheep, one third more in weight of wool."

Perhaps the experience of the writer of this is too limited to justify the expression of an opinion; yet so far as it extends, it would seem to establish the principles laid down in the above extracts from Messrs. Stout and Jarvis. There can be no doubt that among the subscribers to the Farmer, there are a multitude of practical men, whose experience in sheep raising and wool growing, amply qualifies them to impart to others the information so much desired, and which would at once settle those questions which now perplex so many farmers. If such men would now and then devote an hour to the recording of facts connected with their experience in farming, and particularly to the queries mentioned above respecting sheep, and give them to the public through the medium of the Farmer, we are confident they would receive the thanks of the farming community, and from no individual would these be more sincerely rendered than by a YOUNG FARMER.

From the Genesee Farmer.

COW-YARD FROLICS.

BY J. B. B.

How many lamentable as well as laughable scenes I have witnessed in the cow-yard, when good management would have produced a flowing pail of milk, quietly and peacably drawn from the cow, with ease and comfort to her, and the milker satisfied and thankful. There are different ways to do the same thing, yet but one way that is right, and that is the *best* way. For instance, you have a cow with sore or cracked teats, from which when milked the blood will ooze out between the fingers. This must necessarily be very painful to the cow; but never mind that—she must stand or take a drubbing. Heedless that a cure might be effected in a very short time, with very little trouble, the cracked teats are left to get well as they may. Now, "Old Kick" is a very high strung cow, and full of mettle. and will not stand such treatment. She kicks and runs occasionally, and occasionally gets a flogging to pay for it. However, she continues to kick, because she is hurt, when milked, until the habit of kicking becomes a kind of second nature to her, and then look out for trouble afterwards. The milker commences milking her, she chews her cud, looks good natured, and every thing appears as though it was to be done decently and in order.—But the scene soon changes, for "Old Kick," not liking some movement, introduces her hoof against the side of the pail, (if not into it,) and turns it topsy-turvey, the pail rattling and the milk flying. "Old Kick" now expects a flogging, so off she starts full sail. The provoked and angry milker pursues her with the first club or stool he can get hold of, and now for a chase. Round the yard they go at full speed, (which frequently starts the other cows, and over goes another pail of milk,) until "Old Kick" is overtaken, and then the club or stool is set in motion upon her sides, the sound of which is not unlike the sound of the thresher's flail, which makes the woods resound with its echo. "Old Kick" is now cornered up, and has to take *it*, (showing her *good will* by kicking now and then, and shaking her head,) till the milker considers her thoroughly subdued, and then commences again to milk. Ten chances to one if he has not to go through with another performance like the one just mentioned, before "Old Kick" is set at liberty until the time for another milking. Now, the right way would have prevented all this trouble, and "Old Kick" would have remained as she used to be, not the worst of cows. The first step would have been to have cured her teats, which is very readily done by washing them with cold water, and then applying a little *linseed oil*, for a few milkings,—(an effectual cure.)

I had the misfortune to be milker of a cow, ("Old Kick" was her name,) for two or three years, which had been trained as above mentioned. She was as bad as bad could be, as split pails and sore shins would at the time have testified. She was for the first two seasons gentle and kind, and was considered a very excellent cow. She was then sold, and probably by bad management, either by having sore teats or some other cause, became, as I have stated, as bad as bad could be. The purchaser was accordingly dissatisfied with his bargain, and the seller not knowing the reason, and considering her well worth the money paid for her, gave the man his money and again took the cow. Many has been the frolic I have had with her, for hardly a night or morning passed without a chase, and nothing short of a good threshing would induce her to stand still and be milked. At length I invented a plan which ended the flogging business, and "Old Kick" was completely under my control. I made a small pen and drove her into it, having prepared a strap with a buckle at one end, and buckled it around her hind legs. I then let her manœuvre to her own satisfaction, and finding she was fast, she accordingly gave up, and I milked her without even one attempt to kick. She soon became willing for me to buckle the strap without choice of place, and I had no more trouble afterwards, otherwise than keeping a strap in readiness. I tried several times to milk her without fastening her legs, but she soon convinced me she had not forgotten her old pranks. I used the strap two years; she was then fattened and sold to the butcher, and thus ended the life of "Old Kick."

To me no part of the farmer's stock looks more grand and beautiful, as well as lucrative, than a number of sleek, handsome and stately cows, yarded for the purpose of milking. See them! How majestic they look! Their large and handsome bags, furnished with clean and nicely shaped *handles*, and then to draw an overflowing pail of the white and foaming liquid. What can be more delightful!

In my opinion, farmers in general do not make it sufficiently their interest in the selection of their stock, especially those for the dairy. In the first place, the best breed should be obtained, and then a selection should be made of such as are kind and gentle, with another very necessary appendage, viz: sizeable teats. We have a young cow at the present time, and, to speak within bounds, I should not think her teats exceeded one inch and a half in length. The other day I had occasion to milk an old ewe, which had lost her lamb, and am confident her teats were full as long, and I think for choice I had rather milk her! Now I should charge in the course of a season to milk such a cow the extra time, well as trouble and perplexity taken into consideration, full as much as the butter or cheese made from the milk would be worth. The better way I think would be, if necessary, to buy a cow furnished with better teats, (even upon credit,) and let the calf run with the former until old enough to wean, and then fit her for market.

Once more, and I conclude. As it is a very easy thing to spoil young cows, even by a few milkings at first, by bad management, due care should be taken, and the best

method pursued. We have found it the most advisable in breaking heifers, to make a small yard and drive them into it, when milked, for a short time at first. If they show any disposition to be obstinate or sulky, the better way is to coax them and treat them gently; they will soon yield, and you will gain their affections, and be blessed with good and gentle cows.

J. B. B.

Ledyard, July 2, 1836.

From the Maine Farmer.

SCYTHE MAKING.

Mr. Holmes:—I have long been convinced that the Temperance reform was exerting a salutary influence on the three great interests of New-England; but never till of late have I been fully aware of the extent of the reform in the great manufacturing establishments, or the amount of good which has resulted.

During a late excursion in Massachusetts I have visited a large number of factories and workshops, and, through the politeness of the proprietors or their agents, have been informed of the principles on which they are conducted, and permitted to observe the several operations. I propose, as I may find leisure, to communicate to the public, through your highly useful paper the results of my observations.

The first factory I visited was a scythe factory; I shall therefore make the manufacture of scythes the subject of my first communication.

Most of your readers have probably used scythes stamped with the name of "*Farwell,*" and have found them to deserve the very high reputation they have enjoyed for more than forty years. Mr. John Farwell, the original manufacturer of these scythes, is still living and actively engaged in the business, which he commenced so early as 1794. Prior to that time, and indeed long after, most of the scythes used in this country were imported from England and Holland. Farwell's scythes however soon entered into successful competition with the foreign article, and have continued to do so to the present time.

There are two branches of the scythe factory of Messrs. J. Farwell and Co.; the one situated in Chlemsford in the county of Middlesex, and the other in Fitchburg, in the county of Worcester. The two shops give employment eleven months in the year to about 24 men. The iron used is the best Russia Old Sable, and the steel, either Cast Steel or German Steel of the first quality. There are twelve operations in making a scythe, each of which are performed by one individual exclusively.

The first operator takes a piece of iron 5 inches long, 2½ inches, wide and half an inch thick, this is heated and drawn to the length of 15 inches, or thereabouts; it is then bent over and doubled and a bar of steel, weighing half a pound and of the same length as the doubled bar, is inserted at one side. The whole is then welded and drawn to the length required. The second operation is that of drawing the bar to a point. The third consists in plating it to the required width. The 4th in crooking the point ready for the forming or swedging machine. 5th, in turning the back and swedging the web. 6th, in turning the heel. 7th, in tempering and straightening. 9th, in grinding. 10th, in adjusting the edge and inspecting, which is usually done by the master workman. 11th, in varnishing. 12th, labelling and preparing for market. Recently these gentlemen have introduced the use of mineral coal in their forges, and one of the firm is the patentee of the "concave sett." By these two improvements combined, the expense of manufacturing the scythes is materially diminished, and the danger of separating the back from the web, in grinding, is avoided. In each of the shops there is a blowing machine, by which means of pipes, communicates with the numerous forges, and keeps up the degree of heat in all. All the machinery is driven by water power, and in both factories not less than 2500 dozen scythes are made annually.

In examining the works, I was much pleased with the neatness and order which prevailed, and with the air of cheerfulness and health which was apparent. In answer to my inquiries, on this head, the Messrs. Farwell and their partner, Mr. Simonds, informed me that they conducted their factories on the most rigid principles of temperance. They furnish no intoxicating drink to their men—they decline giving employment to any man who is known to use spirits as a drink, either habitually or occasionally. The results of this prudent arrangement is that the work is done in the best manner and in season, and there are no quarrels, nor misunderstandings. Every one knows his duty and performs it—every one understands his own rights and respects those of his employers and shop-mates.

Here, then, Mr. Editor, is another proof that intoxicating drinks are not necessary for laboring men, even when engaged in the most arduous employment, and exposed to opposite extremes of temperature. It is not, however, a solitary proof. A large proportion of the manufacturing establishments in Massachusetts are conducted on the same principle. We sometimes hear of *reaction* in the temperance reform, but I saw no reaction in Masschusetts, on the contrary the cause seemed to be everywhere gaining friends, and I doubt not that, built as it is on the truth, and connected as it is with the best interests of all classes in the community, if reasonable efforts are made by its friends, it will continue to triumph until, at no distant day, alcohol will be confined to its appropriate place—the shop of the apothecary.

A Traveller.

From the Baltimore Farmer and Gardener.

PEACH TREES CULTIVATED IN POTS.

The American Gardeners' Magazine contains a long and interesting article on the subject of the management of *Peach trees in Pots.* It is from the pen of the conductors of that excellent work, and although the necessity of *such culture*, of this most luscious fruit does not exist with us in this part of our country, yet there are other parts in which many of the suggestions might prove useful.

The method which these gentlemen have adopted is to raise the plants from the seed. They plant the peach stones in November in a bed in rows about 3 or 4 inches apart, and cover them an inch or more in depth. In the month of May the plants make their appearance. About the 1st of June they take them up and pot them in good sandy loam and leaf mould. The plants are placed in a warm shady situation for a week or two until well rooted, when they are removed into a sunny aspect, and the pots plunged to the rims in the soil. Throughout the summer they give them supplies of liquid manure, and the pots are kept free from weeds.

In the month of August, if treated well, they will be large enough for and should be budded. The lower leaves should be stripped off to the height of 8 or 10 inches, a few days before inocculation. *Buds should* then be procured, of the best kinds, suitable for pot culture, and immediately inserted, choosing a dull cloudy day for the operation and performing it very skilfully, as the stocks are so small as the buds will not unite quite as freely as on those two years old. After the buds are inserted, the plants may remain in the same situation until severe frosts occur in the fall, when the pots should be taken up to prevent their being broken and placed in the cellar. If any roots run through the holes they should be cut off. Two or three waterings will be sufficient through the winter. In the spring of the year the pots should be placed in a hot-bed or green-house to give the plants a start; head off the shoots three or four inches above the buds; when these have made a growth of a few inches, they should each be tied to small sticks to prevent their being injured by the wind or other accidents. Water the plants freely. The plants should now be repotted in good rich mould, in *large* pots, 12 or more inches wide at the top and about the same in depth. On the approach of the winter they should again be placed in the cellar.

In pruning the trees in pots some care is requsite, all the superfluous branches in the culture of the tree must be cut off, and all the strong shoots must be headed off.—Always prune with an eye to the succeeding year's wood and crop, and not let the trees grow up tall and straggling. They should never be permitted to assume a greater height than five feet.

The trees should have plenty of water, sun and air. The conductors say they never have tasted finer peaches than those they have raised in pots, and think it would be a delicious treat for a gentleman to place one of those trees bending beneath its fruit on his dinner table for his company to pick from. The peach tree thus raised is said to be less subject to disease than when raised in the open air.

THE FARMER AND EARL FITZWILLIAM.

A farmer called on Earl Fitzwilliam to represent that his crop of wheat had been seriously injured in a field adjoining a certain wood, where his hounds had, during the

winter, frequently met to hunt. He stated that the young wheat had been so cut up and destroyed in some parts he could not hope for any produce. "Well, my friend," said his lordship, "I am aware that we have frequently met in that field, and that we have done considerable injury, and if you can procure an estimate of the loss you have sustained, I will repay you." The farmer replied, that anticipating his lordship's consideration of kindness, he had requested a friend to assist him in estimating the damage, and they thought that, as the crop was quite destroyed, 50*l.* would not more than repay him. The Earl immediately gave him the money. As the harvest, however, approached, the wheat grew, and in those parts of the field that were most trampled, the corn was the strongest and most luxuriant. The farmer went again to his lordship, and being introduced, said, "I am come, my lord, respecting the field of wheat adjoining such a wood."—His lordship instantly recollected the circumstance—"Well, my friend, did I not allow you sufficient to remunerate you for your loss?" "Yes, my lord, I have found that I have sustained no loss at all, for where the horses had most cut up the land the crop is most promising, and I have therefere brought the 50*l.* back again."—"Ah!" exclaimed the venerable Earl, "that is what I like; this is what it ought to be between man and man." He then entered into conversation with the farmer, asking him some questions about his family—how many children he had, &c. His lordship then went into another room, and returning, presented the farmer a check for 100*l.*—"Take care of this, and when your eldest son is of age, present it to him and tell him, the occasion that produced it." We know not which most to admire, the benevolence or wisdom displayed by this illustrious man; for while doing a noble act of generosity, he was handing down a lesson of integrity to another generation.—[*English paper.*]

Remarks by the Editor of the Farmer and Gardener.

The moral taught by the above simple narration of an anecdote, is worth millions to the world, if those who inhabit it would only profit by it. It demonstrates with a clearness, beauty, and force, which challenges admiration and wins respect in every quarter where integrity of the higest order is appreciated, and where benevolence springing from an unadulterated heart can find a response. How commendable the example of the young farmer! how glorious that of the venerable Earl! Such acts are, indeed, praiseworthy beyond all comparison—they are as the salts of the earth, and should teach poor grovelling humanity, even against its own consent, to pursue an upright and honorable course; for it places the *expediency* of such actions upon the all-subduing ground of interest. By an adage, as venerable as venerated, we are taught, that "honesty is the best policy"—and how happily does the present anecdote illustrate its truth, and exemplify the justness of its philosophy. "Take care of this, and when your eldest son is of age present it to him, and tell him the occasion that produced it"—said the Earl, as he handed the young farmer a check for a hundred pounds. Could advice be more appropriate? "Tell him the occasion that produced it!"—how solemn and how pleasing was the duty imposed upon the father of that son!—our life on it, his eyes glistened with the tear of gratitude and joy—gratitude to the thrice noble and generous donor, and joy that he had been made the herald of news so fulfil of the emanations of the most exalted and estimable attributes of human nature, clad in its best and holiest vestments! We would rather be able to present to our eldest boy, a hundred pound note under similar circumstances, on his arriving at his majority, than to have it in our power on our demise to leave him thousands unaccompanied by a deed so savory so hallowed by its purity, and so dignified by all that is lovely in the sight of God or man.

From the Maine Farmer.

CULTURE OF ROOTS—SILK, &c.

Mr. Holmes.—I will now resume the subject of root crops. Although the season is unfavorable yet my ruta baga, and particularly my potatoes look very promising. Much might be said to prove that some respectable farmers of our county, (Oxford) are beginning to awaken; and the probability is, that our State will in a short time rival the mother country in this most profitable branch of agriculture. Much has been written in regard to Silk culture, and I doubt not if these statements are correct, it must be a profitable branch of husbandry; but nevertheless I will give it as my opinion that root husbandry will give employment to the greatest number of laborers. It has been said that one acre of land in Silk will yield, if the soil is suitable for the growth of the mulberry, three hundred dollars. I am perfectly willing that ladies and gentlemen too, should be clothed in Silk, but after home consumption is over supplied, what shall we do with the surplus? I have heretofore mentioned the subject o. His Britannic Majesty's Provinces being contiguous to our State; this is indeed fortunate to both countries, for commerce is the handmaid of agriculture, and a beautiful damsel she is too, if you will permit me to write metaphorically a little. In regard to manufactures—if there are but three productive employments, this branch of industry must be of immense importance in every civilized country at least.

I will demonstrate, that if our farmers employ all their capital in cultivating silk, it must be that they pay little regard to potitical economists. Mankind are so constituted that they must have food or perish, let them be clothed ever so well. The desires and tastes of men happily differ.—What will satisfy one man will only disgust another.

Accordingly we find in all enlightened communities a vast variety of laborers calculated to enhance their own individual prosperity, and of course the public weal. But I will notice still further the subject of roots. It is said this branch of farming is the great boast of British Agriculture—yes, even in Ireland they are skilful in root husbandry, and in Wales for aught we know may be very skilful; indeed, in this and other branches of husbandry, experience teaches a good school, and fools will sometimes learn in no other. No man of intelligence will doubt the excellency of British agriculture, and no man of common sense, will, if he is patriotic, deny the fact, that we can catch light from our British brethren on the subject of scientific, and I will add practical husbandry. This being the case, let us notice something in regard to one Cobbett, who was, if report says true, a great cultivator of ruta baga or Swedish turnips. It is said he raised 50,000 bushels or more of this root. An inquisitive Yankee would naturally ask the question, what did he do with them? Of course stock of some kind or other must consume them: beef is very much relished in England and this country too—butter and cheese are also articles of comfort, and are convenient articles of the table. The profit loving Dutch generally manage business economically, and in a manner calculated to acquire the greatest amount of money from a given quantity of land with as little labor as possible; of course inventions, introductions of arts are beneficial to at least civilized communities. We can return a little light for light to our British brethren, let us then be thankful to that Being of beings whose providence has heretofore so signally favored our common country; let us then indeed be not only, united in the excellent cause of agriculture, but use a little energy in putting right those Southern patriots who stand in the way of the best interests of society. It is said that roots given to beef cattle do not yield quite half the profits as when given to milk cows, of course female labor will be highly necessary, not only in the management of daries, silken manufactories, &c., but various other concerns, and last not least, I think farmers' daughters should be well educated, or at least should spend a few hours every day studying or reading, which will doubtless promote the public interest. Agriculture as a science being made honorable and the young misses in their teens not wholly neglecting or despising it, we may fairly suppose, that being supported by such powerful pleaders, we may calculate on the future prospects of agriculture in our State with pleasure. Accordingly those gentlemen, manufacturers, as I shall term them, who furnish ingenious machines for farmers and those who use them either industriously or skilfully, together with logical and other literary gentlemen who directly or indirectly afford aid to that branch of industry, which I declare to be the foundation of national prosperity, and one of the surest bulwarks of liberty, are entitled to the high considerations of the public.—With regard to manure, our farmers are beginning to think a little on the subject; but alas! does enterprise sleep? are the minds of farmers clouded, or are they blind to their best interests? The Maine

Farmer is not a political journal indeed, but then we must conclude that agriculture is the foundation of our national glory.

A Young Farmer of Rumford.

VALUABLE TIMBER.

About five years since, a man named Smith, purchased a number of trees of heavy Locust, in this county, for which he paid as high as seventy and eighty dollars each. The buts were squared and sent to Philadelphia, where they were used in ship building. The price apppears extraordinary; but had many of those choice trees been cut up into posts, they would have produced to their owners, nearly, if not quite as much as were paid for them by Mr. Smith. In proof of the correctness of this opinion, we give the following fact:

On the farm of Mrs. Evans, near Marietta, in this county, a yellow locust was felled last season, from which 140 posts were made, one hundred and ten of which were first rate, hewed and morticed, and sold for 50 cents each, and the remaining 30, cullings, fit for board fence, and worth 25 cents each, yielding to Mrs. Evans, *sixty-two dollars and fifty cents.*

The yellow locust is of quick growth, sprouts from the stump, and is natural to to the soil of our river bottoms. A grove of this valuable timber, covering three or four acres, will keep a farm of 200 acres in fences forever: and when the trees are at maturity, say 25 years old, will produce more clear cash than 2 years produce of the whole farm.—*Lancaster Farmer.*

[It has always been a matter of surprise to us that farmers who own bottom lands, do do not cultivate the yellow locust as a crop, in 12 or 15 years they would produce several hundred dollars to the acre.]—*Ed. Farmer & Gardener.*

FLORIDA ARROW ROOT.

The day, we trust, is not far distant, when prejudices in favor of the productions of foreign countries will cease to operate to the detriment of the agriculturists and manufacturers of our own. We are sufficiently friendly to the policy and principle of free trade, to allow every man to exercise the most perfect freedom in the purchase of whatever he may require, whether the necessaries or luxuries of life, at whatever price he may think proper, yet we cannot but lament the blindness or perverseness that will lead any one to overlook an article of home manufacture supplied at comparatively a low price, for one of foreign production in no way superior and truly considered "a dear article." The arrow root, which is the growth of South Florida, may be considered one of the home productions which are sacrificed to the undue preference for those imported. Equally white, equally pure with that of Jamaica, heretofore deemed the best, and by many thought to be the most nutritous of the two, there can be no reason for its not superseding the necessity of supplying market with any of the articles from abroad.

We have no price current at hand giving the value of the imported article in first hands, but we are well assured that it cannot be imported at less than from two or three times the price of that manufactured in this vicinity, which is from 6 to 8 cts. per lb. With an increase of demand, the aid of machinery would be required, and diminution in price might be anticipated; at present a similar mode of manufacture to that followed abroad is pursued in Florida, though it is probable the Florida manufacturers possess not all the facilities of their competitors.

We are not sufficiently versed in botany to pronounce upon the similarity of the Florida root to that of Jamaica or Bermuda, but there can be no doubt of there belonging to the same family of plants. The quantity manufactured is sufficient for the present demand, and doubtless will in crease, as the root is indigenious, and but two or three planters being at present engaged in the manufacture, and that too, in connection with their other agricultural pursuits.

The low price at which the Florida arrow root is sold, allows of its being applied to other purposes than those to which, from its dearness, foreign arrow root was usually restricted. For instance, it is used here almost universally, in the place of starch, and no one can visit Key West without being positively satisfied of the fitness of the substitute. It is so extremely valuable in the composition of many nicities of the table (a fact which have made known for the particular edification of our fair readers, and particularly in an imitation *Best Mung.* It is used by the pianters in some places as a bread stuff, and was so used by the aboregines, but do not ask it for so general a use as to have it supercede the use of either wheat or rye.

We shall rest satified if our notices secures for the manufactures as great a demand as the goodness of their arrow root deserves.—*Key West Enquirer.*

From the Indiana Farmer.

Cincinnati, June 23, 1836.

IMPROVED STOCK.

I have just returned from an interesting visit to Major Clarkson's farm, where I was particularly delighted in viewing his stock, especially his improved Durham cattle. The Major has some fifty or sixty superior animals, from half to full blood. Those which are not full blood improved short horn, are generally crosses upon the Patton stock, varying, as said before, from one half, upwards. The animals I most admired was the bull Proclamation, a noble animal of pure blood, fine form, and weighing about 2000 pounds; old Hyacinth, a fine full blood cow, formerly belonging to Mr. Gerrard, deceased; and a two year old heifer, which sold at Gerrard's sale for $595. This is a very beautiful animal, and among other excellencies, has in my opinion, the most perfect hind quarter I have ever seen to a female quadruped of the cow kind.

Much as I was pleased with the view of this fine stock, I was a little disappointed on finding Major Clarkson's late purchases of stock, about twelve in number, at the sale of Mr. Powell, of Philadelphia and elsewhere, had not arrived. Among that stock is a bull of two years old, which cost $700. I suppose Major Clarkson's stock, with these additions, will be equal to any in the United States.

He will soon be able to furnish the enterprising stock growers of the west, with first rate animals, with which to commence an improvement of their stock.

I much hope the example of Ohio on this subject, will be followed and emulated by the farmers of Indiana. The country is waking up to the importance of improved breeds of stock of every kind. Farmers find but a trifle of difference, after the first outlay of procuring the better breed, between raising a horse that will command $150, and one that will sell for $30. They find it as easy to grow an ox worth $50 as $15—a calf that will sell at weaning for 50 to 100 dollars, as one that will only command two or three dollars. But I must close this epistle. I go from here to the Shaker village, where you may expect to hear from me again.

Yours &c. H.

From the New England Farmer.

FARMERS' AND GARDENERS' WORK.

On the use of lime for preserving health.—Lime is an antidote to contagon, a preservative against infection, and as a means of purifying sinks, vaults, &c., is one of the most useful substances. By making proper applications of this cheap, but powerful agent, together with a due attention to cleanliness and ventilation, the air in jails, hospitals, ships, &c., may be rendered comparatively sweet and salubrious. A quantity of lime while hot and quick scattered every day or two, into the vaults of back houses, and other repositories of offensive matter is indispensable as well to health as to cleanliness.

We should think it a very serious matter if we were forced to eat tainted provisions and drink filthy water; and yet many people appear to be very well satisfied, when, at every breath, they take a substance into their lungs, which is not only nauseous but poisonous. This inconvenience, however, they submit to, when the remedy is cheap, and almost always to be obtained when and where the evil exists.

The walls of cellars, dairy rooms, sitting rooms, and indeed of all apartments, much occupied by human beings should be well coated with good caustic lime white wash, at least once a year. The time of its application may as well be just before the heat of summer becomes oppressive. In London, says an English writer, a society is organized for the "Cure and Prevention of Contagious Fevers, in the Metropolis," and they have appropriated a certain sum of money for purifying the tainted habitations of the poor. Their method consists simply in washing the walls of the room with hot lime which renders the rooms to which the white wash is applied, perfectly sweet and wholesome. In the villages of

New England, the practice of white washing the walls of apartments is common, in cities it is not so usual. The walls of the apartments of our more opulent citizens are ussally decorated with costly paper, or something else, which answers as a receptacle for foul air, and which would be spoiled by white washing; and if they prefer finery to health, they must enjoy their own whims, and pay their own Doctors' bills.

Harvesting Rye.—The following rules for cutting and curing Rye are from an old Albany paper. They appear to us to be judicious, and may furnish hints to some young farmers.

Rye ought to be cut as soon as possible after the milk is out of the berry or kernel; then rake, bind in small sheaves and shock in the following manner; Set up four, five, or six sheaves together according to their bulk; then place on a cap sheaf.

In this position the shocks may stand till perfectly dry; then secure them in a barrack or barn, but never mow them on hay. Grain mowed on hay will receive more or less must, which is deleterious to animals of every kind.

Rye cut and secured in this manner is worth nearly double the price of that cut in the common way; the straw will make better fodder than clover, unless the clover be cut when very green, and particuliarly attended to in curing; the berry of rye will fill in a plump state, and the flour will afford as good bread as we can commonly obtain from wheat.

I have known number of persons who were deceived when eating rye bread from rye thus managed, and supposed the bread made of wheaten flour.

Weeds.—If you have a stock of weeds on your premises it may be worth the trouble to convert them to some useful purpose. We would not wish you in haying or harvesting to devote more time to saving weeds than may be compatible with correct economy. But it may be the case that the pig weed, the purslane, &c., of your garden will make food for store swine, and be worth your attention. Some bury weeds in trenches between rows of plants, and they make good articles in composts. In the latter case it may be well to sift a little quick lime over your heaps of weeds, and then cover them with a layer of the richest soil you can conveniently obtain to receive the fertilizing gases, given out by fermentation. A good husbandman permits as few vegetable and animal substances as possible to decay and putrify in the open air, but covers them with earth and quick lime if he has it, thus preserving his health by the same means by which he fertilizes his grounds.

From the New-England Farmer.

RAISING CHICKENS.

The following is a valuable article and relates to a branch of rural economy, which deserves more attention than it has received in this country. Further favors of a similar nature from the same hand are respectfully solicited.

MR. FESSENDEN,

Sir,—In one of your late papers I saw mentioned a successful way of *raising chickens*,—I have been in the habit of raising them for some years, and if you think favorably of the mode I have adopted, you can insert it in your valuable paper.

I keep my hens warm under cover during the winter, and feed them on "Brewers' Grains" placed in an open box or tub, that they may eat when they please, occasionally giving them oats, corn, and oyster shells pounded fine, and plenty of water—by keeping them warm and well fed, they begin laying earlier in the season. I prefer spring chickens, as they lay earlier than old hens—and the old hens to set, as they make the best mothers. I take care the eggs do not get chilled with cold, and keep them in a warm place in my house. When three or four hens want to set I put from thirteen to fifteen eggs under each of them, according to size—the day of the month marked on each egg—and after the hen has set a week or ten days I examine them by holding the eggs to a crack or knot hole in a board when the sun shines through, and if I discover any rotten ones, I take them away and replace them with fresh ones marked as before mentioned. When the chickens are all hatched I put two or three of the broods to one end, in a coop with an opening against an empty barrel placed on the bilge, and with a little care, when put in the coop, the hen may be made to brood them at the further end of the barrel. In that way the chicksns that are not covered by the hen huddle together around her, and keep each other warm. The hens from which the chickens are taken I put into another coop, and in about a fortnight they will begin to lay again. The hen being confined in the coop, will leave her chickens much earlier than if left to run at large with them, and the chickens will become so accustomed to going into the barrel and huddling together, as to be quite contented to give up the hen's brooding them. After the chickens are two or three weeks old I remove them with the coops into my garden, where they feed upon insects, so as to require but little food—but do not keep them there until they are large enough to injure the garden.

I feel persuaded that in the way I have proceeded, our market could be supplied with an abundance of poultry, and I recommend it with confidence, if managed with care and attention, as profitable to those who may engage in such business.

Charlestown, July, 1836.

☞ The following is only one of many cases we heard, of farmers purchasing seeds when the venders know nothing about what they were selling.

SEED.

We have heard that for a year or two past, some of our farming friends have been horridly imposed upon in their seed. Cabbage and English Turnip seed having been sold them for Ruta Baga. One of our friends will this year lose from two to three hundred dollars in his crop, as he intended to have three acres of Ruta Baga, but they have proved to be English Turnips! Men who deal in seeds should be held responsible, especially when they purchase their seeds of Tom, Dick and Harry and then sell them as genuine. We only say at present that the seeds were not purchased at the Agricultural Ware House of Mr. Harlow. But unless some satisfactory explanation shall be given, we shall caution our readers against purchasing seed at the establishment where these were obtained.—Bangor Farmer.

From the New-England Farmer.

NORTHERN EXPOSURE TO FRUITT—TARRING TREES INJURIOUS.

THOS. G. FESSENDEN, Esq.

Dear Sir—My own garden is an inclined plane, facing, as we say, to the north west; I have found from observation, during five successive years, that vegetables on land of a southerly aspect have been affected by frost, when those of the same kind in my garden were untouched. If the fact be true, I would ask what philosophical principle must be summoned to give an explanation.*

I would state a fact, showing, as I suppose, the effect of *Tar* upon fruit trees. My neighbor and I owned two adjoining orchards, the cankerworms have visited them without mercy for eight successive years—my neighbor tarred his trees in the usual way, mine were many of them large, and taking into the account the expense and trouble and chance of injury from the tar itself—I suffered the insidious invaders to range unmolested. The last season the worms were few compared with preceding years, and many trees were permitted to produce as they were wont. My neighbor's trees abreast of mine, of the same age and kind, bore but sparingly, while mine produced in great abundance—the tar must have been the cause.† This matter is, no doubt, well understood, but as it came under my own eye, I pass it to you; it may not be useful to publish.

Yours truly,
JOSEPH HARRINGTON.

* BY THE EDITOR.—The following remarks originally appeared in the Hampshire Gazette. President Dwight, in his "Travels in New-England," &c., says, the common opinion that tender plants and fruit trees ought to be placed in a warm southern exposure, to preserve them from frosts is erroneous. He adduces many facts to prove that fruit trees should be planted on north western, northern, or western declivities, where they may be exposed to the north western, northern, or western winds. A white frost being merely frozen dew, the great object should be to keep the dew from resting on the plants. This can be effectually done only by exposing them to the free access of the north western wind, the source of almost every white frost. Plants from which the dew is swept away by this wind will escape; while those which, by being sheltered from its current, retain the dew, will be destroyed. Major White, of South Hadley, had an orchard on the north western declivity of a hill, exposed to the strong winds that blow through the gap of Mount Tom and Mount Holyoke. These winds swept the dew from this orchard so effectually, that its blossoms regularly escaped the injuries of such late frosts in the spring as destroyed those of the surrounding country. The inhabitants of South Hadley styled such a frost *Major White's Harvest*, because in such years his cider commanded a very high price. A Mr. Lyman informed President Dwight that in his garden, which was exposed to the north west winds, the white frosts had never done any injury to the vegetables. See N. E. Farmer, vol. v. p. 348.

Another advantage in a northern exposure is obtained by its keeping vegetation back till late in the spring. If vegetation commences early, subsequent frosts congeal the sap in its pores, and kill the young plants by bursting or tearing its fibres; as a glass or earthern vessel is broken by water being frozen in it. See N. E. Farmer, Vol. v. p. 260.

† The following process has been recom-

mended for defending trees against canker worms. *A strip of linen, or canvas,* is put round the body of the tree, before the females begin their ascent, and well smeared with tar, &c. The design of the strip is to prevent the tar from coming in contact with the tree, which always injures it. See New American Gardner, Art. Insects. A gentleman informs us that in Plymouth, Mass. they make use of the following mixture as a substitute for tar, in preserving fruit trees against canker worm, viz.: White varnish, soft soap and whale oil, one third of each, to be mixed and applied at the times and manner of the usual application of tar for the same purpose. The advantages of the mixture, we understand, are, that it is not so soon hardened by the weather, and of course need not be so often applied, and does not in the least injure the trees to which the application is made.

From the Cultivator, for August.

DIFFUSION OF AGRICULTURAL KNOWLEDGE.

MY DEAR SIR—I wrote you a short letter from Pennsylvania, on the subject of the sugar beet; in passing through Ohio, Kentucky, Indiana, Missouri, Illinois and Michigan, I have stated to many intelligent and wealthy individuals, the value of the sugar beet, and I am glad to inform you, that a general feeling prevails, that a new and important product is about to be introduced, which will be a source of vast benefit to our country. All that is now wanting, is information; when that is diffused, capital and enterprise are ready in abundance, to undertake the manufacture. I find that the good and enterprising everywhere, are deeply impressed with the importance of the universal diffusion of information that will tend to improve husbandry, education and temperance. Your excellent paper, the Cultivator, is becoming a mine of wealth to farmers—could each one be induced to subscribe for it, I will venture the opinion, that he would derive advantages over the cost a hundred fold.

I have frequently forwarded a copy of our temperance papers to each post-master in the Union, with the hope of interesting them in the cause, and inducing them to act as agents. The consequence has been, they have, as a class, been among our most valuable friends, for procuring subscribers and transmitting money.

It is of such vast importance that the farmers in all parts of our country, especially in the new parts of it, should have your paper, that I wish you would forward one of your first numbers to every post-master in the United States, with a short address, calling attention to it, and soliciting each to act as agent. The low price of the Cultivator, its valuable contents, and the profits (if any,) derived from its subscribers, being entirely devoted to advance the general interests of agriculture, will commend it to universal patronage, when known and appreciated. For the expense of this distribution, you may call on me.

I am, dear sir, respectfully yours,

E. C. DELAVAN.

Chicago, June 23, 1836.

From the Cultivator, for July.

PLANTING—NO. I.

Trees give to a farm half its intrinsic value. Without trees about it, a farm house looks naked, cheerless and uncomfortable; and without trees man enjoys but a modicum of the blessings which providence has destined for his use. Trees are the farmer's resource, in most cases, for building, for fencing and for fuel. About farm buildings, they afford shelter, and are conducive alike to health and beauty. In the orchard and garden, they are sources of interest, of luxury and substantial profit. It is announced in a late Northampton paper, that Captain Hale, of that vicinity, had sold thirteen locust trees for $153, and a red oak for $30; and that a white ash, which grew in that neighborhood, when converted into plank, brought in market the round sum of $70.—Besides their intrinsic value for timber, and fruit, the judicious planting of trees, in open and exposed situations, "improves the general climate of the neighborhood, the staple of the soil, as regards the gradual accumulation of vegetable matters, affords shelter to live stock, promotes the growth of pasture and corn crops, beautifies the landscape, and thus greatly and permanently increases the value of the fee simple of the estate and adjoining lands."

"What is your age?" was the interrogatory which an eastern prince caused to be put, by one of his attendants, to a very old man, seated by the way side. "I am four years old," was the reply. "Do you intend to insult his majesty?" was the rejoinder. "No, may please your majesty—it is but four years since I began to live, as I ought, for posterity—*since I first planted a tree.*" According to this definition of living for posterity, but comparatively few of our countrymen have began yet to live; for instead of *planting*, their study and occupation have been to *destroy* trees. But every consideration of interest and comfort admonish us, to change our habits in this respect, and to provide in time for the wants of posterity. The old settled States are already experiencing a scarcity of wood, and they contain vast tracts of land, now in a great measure unproductive, which, if planted, would in a few years yield a profitable return in wood, and the great Prairie West is rapidly filling with a population which will soon exhaust its spare woods.

Planting woodland may be regarded as a new business with us, though the Massachusetts agricultural society have endeavored to encourage it by liberal premiums, and individuals, in different parts of the Union, have directed attention to it. It is related of a farmer on Long Island, that he planted a hundred locust trees on the birth of each child, and that the proceeds of the hundred trees, when the child became of age, afforded it a handsome outfit. It is a branch of rural economy which we *must* begin at some time, and the sooner we begin the better. Many districts on the old continent have become desolate, and almost uninhabitable, in consequence of the total destruction of the wood. This is the condition of many tracts in Asia, in Spain, and in the environs of its capital, and even in Russia. In speaking of the maize and vine district of that empire, lying upon the Black sea and the confines of Turkey, a late writer, said to be a Russian statesman, mentions as a great defect of this region, the almost total absence of forests: and he recommends the planting of larch and other quick growing trees in spots where the soil is suitable, and sheltered from the strong blasts which sweep the plain; to rear other plantations under shelter of the first; and the planting of trees near farm houses, and villages, round the fields, along the roads, and especially in the ravines, as means of ameliorating the climate, and increasing the productiveness of the soil.

The planting of forests and ornamental grounds, has long been practised in Europe, particularly in Great Britain, where it is sedulously encouraged by statesmen as well as landholders. It has contributed much to beautify the country, as well as to improve the productiveness and profits of the soil. Some idea of the extent to which it is carried may be formed from the fact, that in the twenty-seven years between 1802 and 1829, the Duke of Bedford alone had planted upon his estate, 1,540 acres of ground, with five millions seven hundred and thirty-five thousand trees, exclusive of 680 bushels of acorns and other seeds put in with the dibble.

The business of planting, like the culture of turnips, or any other *new* branch of rural economy, seems much more formidable and expensive in prospect, than it turns out to be in practice. It may be managed upon every farm, with but trifling expense, by the ordinary laborers. Seeds of our forest, ornamental and fruit trees, may be readily gathered at the proper seasons; and under the plain directions which we intend to give, they may be sown, and trees reared and planted and grown without difficulty.

It is not our intention, in these remarks, to say any thing of trees exclusively ornamental, or particularly belonging to the orchard or garden, except to express a hope, that at least orchards already existing may be spared from the axe, if not for the liquor they afford, or the important material of diet they furnish in the kitchen and in the dessert, or at least for the profit of the proprietor, in feeding and fattening his hogs and other farm stock. Ample and indisputable testimony has been recently afforded, that the same area of land is far more profitable, for feeding farm stock, in an apple orchard, than it can be made in growing for them grain or roots. Our present object is to make some brief suggestions on planting forest timber, particularly for the benefit of our subscribers in the Prairie West, where, if we understand the condition of the country, this ought to be one of the first subjects that should engage the attention of the settler.

From the Cultivator, for August.

PLANTING.—NO. II.

Of the soils and situations most proper for planting, the treatise which we are consulting, "*Useful and Ornamental Planting,*" particularizes—

1. Exposed waste lands, and those that are steep, rocky and precipitous. The loss to individuals, and to the nation, by such large tracts of land lying utterly unproductive, is incalculable.

2. Lands of better quality, which are unproductive by reason of their exposure to bleak winds. Cases are cited, where lands altogether unproductive before, have been brought to produce good corn and pasture, merely by a judicious disposition and arrangement of belts of trees to shelter the ground, and thereby ameliorate the climate.

3. Where the local soil and climate are good, a scarcity of timber exists, or is likely to exist soon, for the periodical wants of agricultural and manufacturing operations. Here the planting may be confined to the angles of enclosures, belts on the exposed borders of the farm, as to the north, northwest and north-east, the bleak points of the farm-buildings, the borders of permanent divisions, and the highway side.

Every soil and climate are naturally adapted to the growth of particular species of trees. These indications of nature should be consulted, and trees growing nat-

urally on similar soils in the neighborhood, or under a like temperature, should be selected. The work before us gives the analysis of various soils which had been planted as woodland, and indicates the trees which have flourished best upon each. On a sandy heath soil, containing but three parts in 400 of clay, incumbent on ferruginous stones, the Scotch fir, (*Pinius sylvestris,*) birch and beech succeeded well, and the last best when the subsoil was a deep sand. A poor sandy soil, seven parts in 400 of clay, was found congenial to the growth of the pine, larch, sycamore, &c. A sandy loam, with nine parts in 400 of clay, grew the larch and fir tribes luxuriantly, and also the beach. On a light sand, incumbent on clay, the oak and chesnut did well, and the elm tolerably so. A clay loam, on a clay subsoil, brought the oak to the highest state of perfection. On a damp clayey soil, incumbent on clay, the oak, elm, ash and horn-beam, attained to great perfection, and the tulip tree (whitewood,) grew free when the ground was trenched. A rich alluvial marsh soil, containg 32 parts in 400 of clay, and 40 of vegetable matter, is said to be capable of growing all kinds of trees, at least the following were found to thrive extremely well, viz. willow, alder, (some of the European species of these, grow to trees,) elm, sycamore, ash, locust, birch, oak, horse chesnut, Spanish chesnut, horn-beam, lime, &c.

In selecting trees for a plantation, reference should also be had to quickness of growth and value of product. Where it is exempt from the borer, these qualities are found eminently combined in the common locust, (*robina pseudo-acucia,*) with the further advantage, that it multiples rapidly by its roots. The oak, ash, beech, maple, walnut, baswood, plane, chesnut, elm, and many other native decidius trees, are readily propagated by seed, and afford profitable timber and wood. Of the coniferous trees, the seeds of several species of pine, larch, and fir, indigenous and exotic, may be readily procured. The Scotch pine and larch are particularly of thrifty growth, and are useful in the arts and on the farm.

The relative growth of several kinds of trees, during 17 years after planting, is shown below, as ascertained on a plantation of the Duke of Bedford, in England, upon porous soil. The measurement was meant to indicate the medium size, individual trees being found much larger. The last column of figures shows the height at which the several kinds are usually planted out, from nursery beds, in Great Britain.

	Girth or circumference at 2 feet from the ground.	Do. do at 7 feet.	Height in inches when planted.
Poplar,	41 inches	37 inches	18 to 36
Larch,	37 do	32¼ do	6 to 24
Pine,	32¼ do	25¼ do	6 to 20
Elm,	32 do	26 do	9 to 30
Silver fir,	28¼ do	25 do	8 to 20
Spruce,	27 do	22 do	
Chesnut,	27 do	22 do	12 to 30
Birch,	25 do	20 do	9 to 30
Sycamore,	24 do	20 do	6 to 30
Beech,	23 do	21 do	6 to 20
Oak,	23 do	13 do	6 to 30
Ash,	20 do	17 do	6 to 20

Grain.—The Richmond Enquirer says that the wheat crop generally turns out even worse than was expected. There is straw enough; but the heads are withered, and yield comparatively few grains. We are assured that some of the farmers will not make seed wheat—others have ploughed up their fields without reaping—many will not make half crop; others, not a third or fourth. The ravages from various causes, the fly, the wet, smut, freshet, &c., &c., are more or less felt by almost all. The complaint extends to both sides of the mountains in Virginia. But the corn looks well, and the oats are very fine.

The Baltimore American of Friday last publishes a letter from Gloucester Court House, Va., dated July 9, which states that the crop of wheat is so very indifferent that doubts are entertained whether a single bushel of the first quality can be obtained in the whole county. The average will not be more than equal to the fourth of a crop, and that fourth the poorest stuff that can be well imagined: that many of the farmers do not consider the crop as worth the trouble of harvesting:—and that the corn crop is very unpromising.

The Alexandria Gazett has the following notice of the crops in the counties of Virginia mentioned therein:

We learn from a gentleman who has recently visited the counties of Fairfax, Prince William, Fauquier, and Loudoun, that the wheat crop in the three first named counties will be from half to two thirds of an average one, Loudoun not so good. In Frederick county the crop is represented as very indifferent, and in Jefferson, Berkely, and many other counties beyond the Blue Ridge, it is said to be almost a total failure. The rye crop is generally very indifferent. Of the corn it is too early to judge, as much yet depends upon the weather—at present the corn, though short, looks in a flourishing state. With seasonable weather and the absence of early frost it may partially remunerate the farmers for their loss in the wheat and rye crops. The oat crop is an abundant one.

We conversed on Tuesday last with a gentleman of Martinsburg, who assured us that in many fields in that section of country the seed would not be gathered.

From the Albany Argus.

The Geological Survey of the State.—It will be generally recollected that the legislature at the last session, made provision for a geological survey of this State, including an account of its botanical and zoological productions. This important measure was to be executed under the direction of the Governor, by competent persons to be appointed by him The outlines of a plan for this work, together with a specification of the objects to be embraced in it, were submitted to the legislature in an able and excellent report, made to that body by Gen. Dix, as Secretary of State. This plan has, with some inconsiderable alterations, been adopted by the Governor. The State is divided into four districts, and one principal geologist and an assistant assigned to each, instead of two geologists, as suggested in the report made by Gen. Dix.

It was supposed that it would be necessary to have a draughtsman for each district, but it is believed that a change in this respect can be advantageously made. The geologist and his assistant will be able to execute all the ordinary drawings, and the services of only one draughtsman will be required to execute the more difficult parts of this branch of the work. An accurate, minute and uniform analysis of the minerals, including mineral waters, and of the various soils of the State, has been deemed of great importance, and will be of evident utility. To ensure the best result in this respect, and to prevent the repetition of the same labor to some extent at least by each geologist, this department of the work has been committed to one person. The Governor has, we believe, taken great pains to secure to the State the services of persons in all respects well qualified for the duties assigned them; and has almost completed the list of appointments.

John Torry, M. D, Professor of Chemistry and Botany in the College of Physicians and Surgeons, New-York, &c., is appointed Botanist, and is to execute the botanical department of the survey.

Lewis C. Beck, Professor of Chemistry and Botany in the New-York University, &c., is appointed Mineralogist and Chemist, and has charge of that branch of the work which relates to the chemical analysis of the minerals, soils, &c.

James E. De Kay, M. D. author of numerous papers on the Geology and Zoology of the United States, has charge of the Zoological Department.

William W. Mather, for several years Professor of Mineralogy and Geology in the Military Academy at West Point, is appointed principal geologist to execute the survey of the first district. His assistant has not yet been selected. The first district is composed of the following counties—Suffolk, Queens, Kings, Richmond, New-York, Westchester, Rockland, Putnam, Dutchess, Orange, Sullivan, Delaware, Ulster, Greene, Columbia, Rensselaer, Albany, Schoharie, Schenectady, Saratoga and Washington.

Ebenezer Emmons, M. D., professor of natural history in Williams College, has been appointed principal geologist for the second district. James Hall, instructor in the Rensselaer School at Troy, is appointed the assistant. This district contains the counties of Warren, Essex, Clinton, Franklin, Hamilton, St. Lawrence and Jefferson.

Timothy A. Conrad, author of a work on the "Fossil shells of the Tertiary formations of the U. S.;" Monograph of the American Uniodeæ, &c. is appointed principal geologist for the third district; and Geo. W. Boyd, M. D., curator of the N. Y. Lyceum of natural history, is appointed his assistant. This district includes the counties of Montgomery, Herkimer, Oneida, Lewis, Oswego, Madison, Onondaga, Cayuga, Wayne, Ontario, Monroe, Orleans, Genesee and Livingston.

The fourth district includes the counties of Otsego, Chenango, Broome, Tioga, Cortland, Tompkins, Seneca, Yates, Steuben, Allegany, Cattaraugus, Chautauque, Erie, and Niagara. Lardner Vanuxem, late professor of chemistry and mineralogy in Columbia College, South Carolina, has been appointed principal geologist for this

district. The assistant has not yet been selected.

The following is a copy of a circular which the Governor, has furnished to the persons employed in the survey:

Albany, 25th July, 1836.

Sir—I take the liberty to introduce to you one of the gentlemen employed in executing the geological survey of the State, directed by the legislature at the last session. The importance of this measure in respect to our general prosperity, and particularly to the interests of the people in those sections of the State which are supposed to contain mineral productions, or in which valuable discoveries may be made, will, I trust, secure to them a favorable consideration in every place to which their duties may lead them. I confidently anticipate a readiness on the part of the inhabitants in every section of the State, to render to the persons engaged in this work, such assistance as will facilitate its execution.

The assistance which the geologists will be desirous of receiving, will, I presume, relate principally to information concerning localities which are interesting as connected with the objects of the survey—to the collection of specimens—and to the facilities which they may require in conducting the more difficult part of their researches. Those who are disposed to contribute in any manner to the accomplishment of this useful work, will no doubt be willing to confer with the public agents as to the manner in which they can best carry into effect their good intentions.

It may be that in the course of their researches, these agents will wish to extend their examinations beyond the surface of the earth. This will, in some instances at least, require labor which it will not be in their power to perform. The legislature made no provision for an expenditure for such purposes, and unless those who may be immediately interested, should be willing to bestow the labor required in such cases, the advantages that might result from such examinations cannot be attained at present.

A careful and complete geological survey of the State, including a minute and accurate analysis of its minerals and soils, together with an account of its botanical and zoological productions, such as was designed by the legislative, is an undertaking of much labor, and although executed in the most economical manner, will be attended with great expense; but both of these, however, will be considerably diminished, if the gentlemen engaged in carrying this measure into effect should receive, as I hope, they will, the co-operation of public spirited individuals in various parts of the State.

Permit me to solicit from you such facilities in the prosecution of this undertaking, as you may find it convenient to grant to those who have been employed in executing it.

I have the honor to be, with great respect, your obedient servant,

W. L. Marcy.

From the New-England Farmer.

FARMERS' WORK.

A writer in the New-England Farmer who dated from Lynn, and used the signature "*A Farmer,*" made the following remarks:

"I destroyed what few thistles I found on my farm last year by some refuse beef brine, without the trouble of cropping them down; though I think it best to crop them even under ground. Indeed the cropping or cutting down should be attended to before this time of the year, [fore part of August] if nothing more is done in order to prevent their spreading. Its downy seeds are now in this vicinity wafted about in the air by every wind—they just begin to be let loose, and will propogate far and wide. It is matter of astonishment that so little attention is paid to the subject. Farmers were informed several years ago, of the efficacy of the above method of destroying the thistle, or one quite similar in Vol. II, p 411 of the New-England Farmer, and yet they still neglect to make use of it." * * * * *

The following is an extract from the passage alluded to: "Cut off each thistle about half an inch below the surface of the ground and then pour on it a gill of coarse salt. Fish brine may be used instead of salt, and will answer the same purpose. If in a bed of thistles a few should escape the first year the above operation should be carefully performed on them the year following. The summer season, when the thistles are in full growth is the proper time for doing the business."

A correspondent of the New-England Farmer, with the signature "*Rusticus*" Vol. VII. p. 137, ridicules the idea of destroying thistles by salt, as advised by the writer of the above article. Rusticus observes that "Philosophy as well as experience conclusively proves that mowing thistles off two or three times in a season, particularly when in blossom will effectually destroy this pest of our farms, without the application of a gill of salt. Repeated defoliation will destroy any tree or plant with which I am acquainted.—Leaves are necessary to the growth of plants, and they cannot live without them in summer. A few years ago, whole forests of sugar maple were killed by the caterpillar destroying their leaves about midsummer. The white mulberry is very tenacious of life, and yet were it entirely and repeatedly stripped of its leaves it would die. I have lost hundreds of young plum and cherry trees the last summer, by small black lice which attached and destroyed the foilage of the new budded stock. Leaves are to the vegetable what the stomach is to the animal, the organs of digestion, which converts food into nutriment, and without this nutriment the plant nor the animal cannot long subsist. The Canada thistle has diminished in West Vermont nine-tenths within my recollection. They are annually cut above the ground, and have not, I believe, been dosed with salt or pickle.

To this it was replied by our friend of Lynn, as follows: that destroying thistles by his method is not mere theory. "I have destroyed them with brine and without even cropping—nor do I believe the cropping essential. As to the expense, I should suppose a horse load of salt, which I have seen sold at the wharves for one dollar and fifty cents, being salt which had been used for salting imported hides, would be sufficient to destroy the thistles of least half an acre, and a man would perform all the labor required in three hours.

"I have seen the method of mowing them several times in a season, practised several years in succession in Ipswich, where they abound; and could perceive no other effect than a tendency to prevent their spreading. As to your correspondent's philosophy of defoilation, to destroy trees and plants it may be correct as respects some species; but pray what will he charge to come and destroy by this process an acre of my barberry bushes, blackberry vines, or of the various kinds of bushes that infest our low lands! These I have cut in the height of their vigor, without much effect, but have seen the same killed with salt without much trouble. I doubt much if the common willow would be destroyed by divesting it of its foilage at any season. If cutting a plant so tenacious of life, as the thistle will kill it, how extraordinary it must be that our tender grasses, (most of which are cut in the bloom, and often more than once in a season) are not destroyed by this means.

It is well known that some shrubs, such as the Chinese Mulberry, the Box, the Willow, &c., may be cut off, or headed down for an indefinite period without effecting their destruction. Old pastures which have been cropped for many years produce better and sweeter grasses than are obtained from land recently laid down to grass. Garden vegetables, used for salads produce more as well as better foliage for seasonable cropping. Cropping thistles in the blow, we believe, will not at once extirpate them, but it will prevent their being propagated by seed, and thus infecting a whole neighborhood.—In many cases, where the plague of thistles is limited to small locations we believe that the application of strong solutions of salt will be the cheapest as well as the most effectual mode of destroying them; but in all cases thistles should be cut in season to prevent their being propogated by seeds.

Large Rhubarb Stalk.—A stalk of Rhubarb measuring thirteen feet six inches, may be seen at this office—from the House of Industry.—[New-England Farmer.]

Anderson recommends that Cows be milked three times a day in summer when full fed. If a Cow is not milked dry each time, the quantity diminishes; and if milked dry, the best milk is obtained. The first cream which rises is the best.

From the Southern Agriculturist.

AGRICULTURAL EDUCATION.

In one of our past numbers of this journal, we intimated our intention of preparing a series of essays on the subject of Agricultural Education. Though long delayed, the pledge has not escaped our memory, and we have been anxious, on more than one occasion before, to undertake and fulfil it. Our journal, however, has been well occupied with other matter, and whatever may have been our desire upon this point, we have not had, until now, the necessary opportunity for the execution of our task. The time has come, however, when we may make our promise good, and we proceed accordingly to a consideration of the subject, under the four following heads:—

1. The present and defective character of Agricultural Education in South Carolina.

2. The causes to which its defects are attributable.

3. The probable remedies for such defects, and

4. By whom such defects are remediable.

Our views on these topics must necessarily be discursive. They present too large a surface for very ready and effective concentration, and if we glimpse at them only, as they severally come up before our minds, it is quite as much as in reason, we may be expected to do.

South Carolina, from its first settlement as a French, and subsequently, as an English province, has been essentially and almost entirely agricultural. The laws of nature imperatively made her so. The spontaneous and liberal productions of the soil, designated to the most ignorant mind the purposes for which she seemed to have been intended; and the Indian, when our ancesters first discovered the banks of May River and Port Royal, was accustomed to plant his two grains of maize in one spot, precisely as our planters do at the present moment.* Her resources, from the first, seemed to be entirely those of agriculture and the chase. In all the usual objects of Spanish and French adventure, she seemed utterly wanting. Gold and silver seldom rewarded the greedy European who sought it on her borders; and the only gifts of the savages to their strange visiters, were their baskets of grain, and the free bounty of fruits and flowers. Laudonniere, the French explorer, was not unmindful of these things. Instead of doing as the Spanish would have done, and as they were in the constant habit of doing with the Indians, marching upon and burning their towns, and murdering the simple people for their scorched pearls and flattened breastplates of gold, he planted his little colony alongside of them, and set his men to labour in a like pursuit.† He may be said, however imperfectly, to have commenced our agricultural history; though it may be somewhat mortifying to us to discover that we have not greatly improved upon the current plans of that period, in planting, even to this very day. Nature has continued to be abundant, and we have been content to receive her gifts, very much as the savage did then, without requiting her for them. She has spared us one necessity in disarming or providing for all the rest—that of taking care of ourselves.

Such have been her gifts, and such always has been the prolific abundance of our soil and State. Our prosperity has been derived entirely from our agriculture, imperfect as it has ever been; and without any visible improvement in our arts of management, labour, or experiment, we have presented, through the agency of a productive soil and atmosphere, the appearance of a people which has always continued to improve. All our interests, whether they affect our gain, our society, our politics, local or foreign, take their complexion from our agricultural pursuits, and are prompted by them. All professions in our country are moved by those of the planter. In his success, they succeed—in his losses, they suffer. In his fate, the fortunes of merchant and mechanic, lawyer and doctor, freeman and slave, have their governing principle, and his importance is to be estimated by their dependence upon him, not less than by his own individual character and influence in the community. His successes determining, in great measure, theirs, does it not follow that in proportion as he is weak or enlightened, they will falter or succeed. In proportion as he is intelligent and industrious, will be their hopes of fortune, and their capacity for enterprise. In proportion as he is skilful and reflective, will be their skill, their reflection, their readiness for adventure, their elevation of pursuit and character—their virtue and their patriotism. The intimate connexion and close dependance of all pursuits upon those of agriculture, are happily comprised by Lord Bacon in a simple and brief sentence, in which he sums up the whole history of national prosperity: "There are three things," says he, "which one nation selleth to another—the commodity as it is yielded by nature, the manufacture, and the *vecture* or carriage; so," says he, "if the three wheels go, wealth will flow in as a spring tide." He places the three things in their proper order.—The planter first, the manufacturer next, the shipper third; and the sentence might very well be stuck over the door of every cotton and counting house in the country.* But there is yet a greater than planter, manufacturer and shipper, whom Bacon has not classified with the rest. He must be set before them all. He is *Labour*—a huge, heavy-handed giant, striking like a blind Cyclops imperfectly and uselessly, until Art, a gift from Heaven, which should be protected, if not worshipped by man, comes to his aid, and directs his efforts, and makes him equally important to agriculture, to mechanics, and to commerce.—Through him they all triumph, without him not one of them could succeed.

We have labour—has art duly prompted and directed his industry? This is the question. Surely, these are truths—undeniable truths—which we have been uttering. Have our people learned them—do they believe them—have they adopted, and do they toil in obedience to the precepts which they teach? How far has South Carolina recognized, and how closely has she practised upon them? Let us ask the question. Let us look into the truth.

It is humiliating to know that we have made no such inquiries—we have been too regardless of these truths. Not sufficiently content with the bounty of providence to forbear complaint, we have yet been too well satisfied with what she has given us, to have laboured at improvement. We have left undone a thousand things which should have been done, and we need not wonder, if there should come a time, when the wholesome truth comes home to us, and the stern rebuke of heaven places our present diminution of the goods of fortune to our own account; charging us with a neglect of our proper duties of self-instruction and self-devotion to our own and the general interest of the country. Look back at our agricultural history and enterprise, and how gross are its defects. What have we learnt?—What do we know?—Where are we now? Are we a solitary year in advance of the first settlers in the matter of Agricultural Education. We fear not. What are our improvements; and what is the estimate which we are accustomed even now to put upon agricultural knowledge? Is it not regarded as the merest matter of common place industry and effort, which calls for an overseer, not a guide—a spy rather than a teacher; which needs no art to prune, no precaution to provide against the vicissitudes of the season, no reflection to devise new improvements, or convert into proper channels, the well known and the old? Is not such the estimate commonly put upon agriculture—the very first of the arts—mingling the necessary with the useful, the useful with the grateful, the grateful with the elegant, the elegant with all others? There are very few persons who consider it a profession, requiring any intellectual exercise whatever, and, compared with its sister arts, we may venture to affirm, that, although the very highest in importance, it is yet the very lowest in point of rank. True, we honor the planter as one who is a good citizen—who has wealth and the influence which wealth produces—who is frank in his intercourse with men—who is hospitable to the stranger, and who gives to our society a character and temper, which we would not willingly see exchanged for any other. But there is little more. When we have said this, and said in addition—he cultivates so many acres, owns so many slaves, hunts as fearlessly as Nimrod,

* See Laudonniere's Voyages.

† The narrative is quite an interesting one which describes the mutiny of his men, who desired to explore the neighboring places for gold, preferring piracy and robbery to the wholesome cultivation of the fields. They stole his boats and made away with them, but were punished in the end. The ringleaders were caught afterwards, and hung by him.

* The words of Bacon have been rhymed as follows:

"Let the earth have cultivation,
Let its products have creation,
Bid the seas give circulation,
And you build the mighty nation."

And yet, unless you give the people education, they would be knocking out one another's brains with their own working implements.

drinks of the best wines that the Champagnes of France produce, as deeply as Mynheer Van Dunk, and with as perfect impunity—that he entertains his friends with a grace that even gives a charm to his entertainment—lives up to his income, yet keeps out of debt; travels like a prince, and never challenges the bill——when we have said all this, we have said all. His virtues and vices, his toils and his pleasures are, alike, set down, and the Agricultural Society may foot them up at pleasure. To him it matters not much what is the precise character of the soil which he cultivates—he asks not the history, he observes not the constitution of the plant from which comes all his revenue.—It is not his concern upon what principle of mechanics his workmen, his horses, mules and oxen, apply their labor; nor does he deem it his part to know by what particular tenure he holds his lands—or upon what great principle, his rights, as a citizen, are maintained. He is too apt to avoid all trouble and concern on these topics. Public opinion expects from him no knowledge on any of them, and he may live in total ignorance of the whole history of his own country, past and present, yet, in no wise offend the judgment of those who move around him. Let him but pay his taxes, he may vote—let him but speak civilly, he is a good citizen—let him but show a whholesome warmth on the subject of his public relations, he is quite as pure a patriot as any in the republic.

Nor, in public and national respects only, may he live in utter ignorance, and live without offending popular opinion.—Contract the sphere of your observation, and see him at home. He may be totally uninformed of those matter which more immediately pertain to his own plantation and its government—sometimes, indeed, he may be even found to despise them, as unbecoming in him to notice, or unworthy of his esteem. And this course of conduct, though in such exceeding bad taste, would call for no rebuke from the general feeling, and would, indeed, rather accord with, than revolt, the public opinion. We are somehow strangely given to regard all labours which employ time, and compel exertion, as inconsistent with a proper gentility.—Noble blood will not trade in merchandize—can it be expected that noble blood will sow and reap, and devise modes and means by which the arts of sowing and reaping shall be strengthened and improved? There must be a revolution in our thoughts, in our habits of thinking, before we can hope for improvement. Our planter, himself, must make a change—he must not wait for the spirit of enlightenment—he must go forth and seek it. Public opinion must keep pace, and go with him in such a pursuit, for, whatever may be the achievements of the individual, he will inevitably fall back into old lethargies, unless stimulated by the belief that the world around goes with him—that all are stirring in the same fields, and that if he does not push forward inflexibly, fearlessly, thoughtfully, he will be left behind in the grand march of enterprize, alone—stagnating and stiffening—where he stands.

The exertion must come from the planter and the planter only. The movement of other craftsmen will never move him.—He must move himself. With us, he is the man who gives the tone to public sentiment. Why? He is the great proprietor known to the country. The capital of our State exists in the soil, and the serfs who work it. They are his. He wields that capital, and that capital makes our feelings, our opinions, our character. To plant is to engage in the highest craft known to our people. It is the object of ambition with all. It would not be so if the influence of the planter were an iota less in business and society.

How does he employ this influence? Let him ask himself the question. Could he make it greater—could he employ it in making a better population among our inferior classes, and what should be the aim of the moral man in his direction of the vast moral power which he certainly may wield over our society, and through it over our institutions? There are other questions which it may serve him beneficially honestly to analyze, and justly to resolve upon. Why is his influence less now, than what, under a proper direction of his energies and thoughts, it might become? The evil and the error is with him. He has himself to blame—none other. The man who places a low estimate upon his own pursuits, cannot surely complain that others receive him at his own valuation. He has suffered the mechanic to regard his craft with more respect, and to direct more of heart and mind to the promotion of it, until he learns to love the toil which gives him strength and power. You may see the mechanic with his badges of plane or hammer upon his apron—you will never see the plough drawn upon the panel of a planter's coach. He boasts of his negroes and his hands. Does he take up the hoe and plant himself—does he regard them, as such old and long tried friends might well be regarded, with respectful veneration? We fear not. He will avoid the subject, and is sometimes apt to disparage it. He has not availed himself of that beneficial and blessing Providence, which has given him a mind able to direct the sinews of labour—he has suffered it to lie waste and fallow, until, through neglect, it has grown as bald and barren as the soil which he has impoverished by the opposite extreme of too much use. Had he used the soil less, and the mind more, and used both of them differently, they had, both of them, been more valuable at this moment. It is truly melancholly to think that these are truths which we are writing. It is sad that the planter—he who owns three-fourths of the State's wealth, and all of its political power—who pays more than one-half of its revenue—should be at the same time of so little real public importance. Why will he not consider these things. Why permit the subject to remain uninvestigated. Why not provide a noble answer, in a new design of a proper and masculine exertion?

We shall now seek to show that this degrading condition of things has arisen necessarily from the defective character of our Agricultural Education—if that can be styled education which fits our people for any thing but what they are to become, and any pursuit but the one which most directly lies before them.

What is the education of our young planter—or rather, what is the education of him who is to become a planter? Is it ever adapted to the end in view—is it ever calculated for his pursuit? Is it not radically defective, as it lacks all connexion with the pursuits of his future life, and as it is rather apt to lead his thoughts away from a consideraiton of it into far and foreign channels.

Let us take an example. There is a planter whose resources are such as will enable him to give his children, what is is styled, by a frank republican courtesy, a liberal education. The boy, as soon as he is old enough, is bundled off to school.—The neighboring city receives him, and from the hands of indulgent but watchful parents, he is transferred to the always uncertain care, and the doubtful management of strangers. He goes to be schooled—not with reference to his pursuit as a future agriculturist, but simply with reference to his importance as the son of a wealthy planter. The distinction is wonderful between the education which a poor and a rich boy receives in the world, at school and out of it, when the difference of their condition is known to those about them. It is frequently ruinous to the one—it is often a blessing to the other; but the vanity of a parent would be apt to insist that his son should be treated with a reference to his own importance, and this vanity blinds him usually to the true interests of the boy.—The son, himself, very soon learns to exact rigorously the defference commanded by his father's income; and under circumstances such as these, his education,—that course of preparation which is to bring his native mind into activity, inform it with all necessary and existing knowledge, and counsel it for the labor which in future life it is to take, and the patterns and purposes which his pursuits will require him to adopt—under these circumstances, which prompt self-conceit, stubbornness, and a total want of all method—his education is begun.* He goes to the city, and, in most cases, is suffered to choose his own lodging house, his guardian, and his associates. His caprices take the place of the experience of others, and his first lessons of obedience are fully begun by his having his own way at the beginning. He attends a regular, or, not unfrequently, an irregular teacher, and is himself a most irregular pupil.—He goes through his recitations or not, and as his parent does not often examine, he is not often dissatisfied with the reports of son and tutor. The teacher does not often inquire what shall be the pursuit and profession of the youth. Indeed, he is not often permitted to do so. Nothing can be more arbitrary or so little adapted to the wants or capacity of the boy, as the course of instructon which he put upon. He is required to conjugate Greek and Latin verbs, and a passing glimpse at Greek roots,

* Refer to Gillie's Greece for an excellent summary of the Laconian methods of education.

is all that is ever taught of roots at all to the future agriculturist. He manages, by dint of *driving*, *drilling*, and possibly occasional *dressing*, (all of these italicized words to be used in the technical, school, and not in a plantation, sense) to make his way after a lapse of years into and through the easier authors of antiquity. Without appreciating any of their beauties, and in half the number of cases without comprehending their meaning, he proposes to be, and is, by the courtesy of Professors, ready for admission into college. College! That mysterious institution which is to convert the block into the classcal shapes of ancient models, and imbue the tough and insensate clay with the creative fires of Prometheus. By this time his moral faculties have all become admirably fitted for his admission into walls so sacred. He is free to licentiousness. Rudeness is manliness—obtrusiveness, proper spirit, and viqlence the only genuine show of high mindedness and a glorious southern fervour. With no parental eye to watch over, to guard his education—his morals and his manners are alike the creatures of his sudden and forward impulses. He has no masters but these last—he has no motive but the indulgence of his long unbridled passions. From college, if not expelled for turbulence and brutality, he passes on to graduation. His education is complete, and he may now choose from all the professions which surround and invite him. Nobody can doubt that he will succeed admirably as a Divine, a Doctor, or a Lawyer—fewer still are there who will venture to deny that he will make a first rate Agriculturist. He, himself, has no doubt upon the subject. He can chop logic with his master, discuss all manner of subjects, quote an occasional passage in the Greek and Latin, blunder over Euclid, and moderately fracture the head of Priscian. He is prepared for life and all its purposes. He is ready to encounter its vicissitudes—his ambition, which is boundless, gives him daring enough to engage in any vocation, and he begins the world, perfectly well educated after the fashion of the time, and destined to add another to the long generations before him, which have lived and died, and left no sign at their departure. He can do nothing for the craft which he adopts—it must degenerate in his hands. He cannot raise his caste—he may impair and possibly degrade it. His country derives no good from his patriotism—an education like his makes an egotist only. Society suffers in his connection, for he subjects it to his caprices.

The cause of this is obvious enough, if we would but see. His education, faulty in all respects, is entirely and doubly so, as it has had no manner of reference to his possible pursuit in life. From the beginning he has been toiling in the dark. Through the whole course of his tuition, though his utor has probably never forgotten that he was the son of a planter, he has probably never kept the fact in mind that the boy was to become a planter also. Agriculture, its condition, its elements, its instruments, its uses, and connexion with all other topics, has never been insisted upon. It was the very last subject, indeed, which he was likely to hear of at school. If his own mind from previous bias and association, exhibited any tendancy towards the subject, he would in all probability find himself discouraged from any investigation of its principles, and among his city mates, his chance would be great, if he showed any large disposition that way, of being laughed at, for what they would be apt to call his inflexible rusticity. When he assumes the robes of manhood and begins to look about him—confident as he has been before about the universality of his genius he now begins to have misgivings. He is a planter and he is called upon to apply his education to his business. What a discovery is that which shows him, not merely the utterly unprofitable character of his education hitherto, but shows him that he is to begin anew—that now, for the first time, he is really to commence his schooling. What connection had his college education with agriculture—how did it expound its laws—how, explain its principles—how, illustrate its practices and unfold its history? He is now to commence with the elements of his education, when he is engaged in the more serious business of his life. Its doubts and difficulties are all before him, yet he is now to prepare himself for that field of enterprize, in which the self taught adventurer is already reaping wealth, and establishing character.

But we must give way to other matter, and leave our disquisition over to another day.

From the Maine Farmer.

A DISH OF "SCRAPS, ODDS AND ENDS."

MR. HOLMES:—Brother Carolus *thinks* we must "convince" farmers "that the course pursued by our fathers and grandfathers in relation to husbandry, is not the best course"—and he then enumerates a number of particulars, of the truth of which it is necessary to convince them of. That is true, brother Carolus—but how shall we go to work? You say, and say truly, "it would seem that many believe the exercise of the mental and physical powers have no connection in the business of husbandry, that our fathers and grand-fathers *thought* all that was necessary for mankind to *think* on the subject, and that nothing remains for us but to *work*, *work*, *work*, without even *thinking* we have the power to *think*."

Now, if I understand the subject aright, so far as writing and reading are concerned, it is in vain for us to *think* of getting people to *think closely* on any subject, unless we can get their attention *closely* fixed upon it. We must interest their feelings. How is this to be done? I answer, by addressing them in such a way as to touch the master springs of human actions. These, though there is a general likeness in human nature, are infinitely diversified. One person likes a short pithy story; and indeed, in this particular there is much uniformity—another is pleased with the solution of some obscure problem, or a long chain of reasoning and argumentation on some favorite topic—another has a relish for poetry, music or painting, &c. For want of attending to these truths some men who have excelled in knowledge in the arts and sciences, have labored almost in vain. Neither their oral or written addresses contain what, in a mental point of view, is well represented by the electric fluid in the world of matter—a living energy—a vitality of thought and feeling, which sets all the elements of the mind in motion. But to apply this subject to agricultural papers and writers, let no one suppose me to mean, that it is necessary every correspondent of the Maine Farmer should be possessed of this exquisite feeling—this fire of the soul—this flow of pathos and sensibility. This is not necessary. People love variety. The appetite of the greatest epicure is palled by his seasoned dishes. The fact is, people love variety, and variety they will have. And one thing we must remember—Man is a bad animal to drive. I frequently think of what a very respectable Quaker once said to me, "Joseph, don't thee know hogs are the most like other folks of any animals in the world.—Gratify their appetites and they will follow almost any where."

But when a man's feelings are once deeply engaged in the pursuit of any calling, he is then prepared to listen to the relation of facts and reasonings on the subject; and what would be insufferably tedious to uninterested feelings, is delightful and pleasant to his more ardent ones. And these views afford a lesson to all the correspondents of the Farmer. Do not think because you cannot write with that fire of thought and feeling which almost makes the ink smoke as it flows from the pen, that your communications are devoid of interest. I do not recollect a single communication in the Farmer, relating to the theory and practice of agriculture, which has been uninteresting to me, and which I have not read more than twenty times over. And to those who have the talent of pleasing, either by a polished, or the happy application of a more common every day style, it calls upon you, in the most emphatical manner, to awake from your slumbers. Oh, Ichabod, awake!

RAISING PORK.

Carolus says, we "must convince farmers that three good cows are better than half a dozen poor ones; and so of all other stock." I once was acquainted with a fact, which illustrates the truth of this sentiment. In the town of Fairhaven and State of Massachusetts, something like twenty years ago, there lived an old gentleman, a neighbor of mine, who was remarkable for raising good pork. One year in particular I remember he bought two pigs in the spring (for I never knew him to winter any swine) and killed them the same autumn or beginning of winter. I cannot tell exactly their age when killed, but my reccollection is very clear, that they were not much over ten months if any. One of them weighed three hundred and eighty pounds or something over, and the other fell short a few pounds, say five or six, of the weight of his mate. These were barrows. Some two or three years after, his son after his decease, killed a sow, about the same age, that weighed 320 lbs. She was a small

boned hog, but I thought quite as fat as those killed by the old gentleman.

I can say but little how they managed with their swine, but can state one fact which, perhaps may enlighten the reader as much as the whole story, could he hear it. I saw the son one day feed his, and as he then had leisure he gave his sow a little at a time, as long as she would eat, and left a little, which he scraped out clean and put back in his pail. The food at that time was a very nice pudding made of boiled potatoes, mashed and minced with meal. My inference from this fact is, it was his principle to cook the food, and then give them as much as they would eat and no more.

The old gentleman sold one half of one of his hogs for 12 1-2 cents a pound without salting. Assuming this price as the value of each pork in that market, at that time, and allowing his two hogs or pigs to weigh 750, the two were worth when killed $93 37 1-2. Now had these two swine weighed only 200 each at the age these were killed, they must have been good meat, but we could not allow them to have been worth at that time, in that market, more than ten cents a pound. This would only have made them worth $40, and the excess gained by extra care in feeding, &c. $53 37 1-2.

From the Maine Farmer.

DAIRYING.

The first and very important measure is to provide a sufficiently large and convenient dairy house, whether the object be butter or cheese. It should be proportioned to the number of cows, and be sufficient for performing all the necessary operations without embarrassment.—"Much attention must be paid to cleanliness in every thing that relates to it, such as the shelves, floors, and different implements which are made use of, by daily scalding, scrubbing, rinsing, and drying, in order to prevent any sort of acidity taking place; for without due regard in these respects, it is impossible that the produce can be of superior quality, or such as will keep sweet and good for any length of time. Cleanliness is the least indispensable part of good management." "A Farmer may have the most valuable breed of cows, and they be fed on the richest pastures, but unless cleanliness prevail in the dairy, his butter or cheese will never stand high in general estimation."

This building should be placed over a cool spring, and trees planted round it for shade. Where there are no springs, the house should be built near the dwelling house, and an ice house close to it. All the utensils connected with the dairy, must be kept perfectly clean. The milk pans may be of any convenient width, but not to exceed *four inches in depth.*

"The milk should be strained *into the pans as soon as possible* after it is taken from the cow, and with as little *agitation as possible*, and where the dairy is large a pail full, as soon as milked, should be strained into the pans. Great loss is sustained by agitation and cooling, and this mode more particularly enables the owner of the dairy to separate the good milk from the bad. Without such attention the whole of his dairy products may be greatly depreciated by the milk of one bad cow." The quantity of butter must depend on the quality of the milk, as well as the management of it; it is therefore important to separate the inferior quality of milk in the first instance, as it secures the best quality of butter: and the inferior may be converted into the use that is found most profitable. There is not only a difference of milk in different cows, but a *difference in the same cow.*—For a more perfect view of this subject, the reader is referred to the Maine Farmer for 1st July.

The following is the opinion of Dr. Anderson, a contributor to the Bath Papers on agriculture. "The writer is satisfied from experience and attentive observation, that if in general, about the first drawn half of the milk is separated, at each milking, and the remainder only set for producing cream, and if that milk is allowed to stand to throwing, the whole of its cream, even till it begins sensibly to taste sourish, and if that cream is afterwards carefully managed, the butter thus obtained will be of a quality greatly superior to what can be usually obtained at market, and its quantity not considerably less, than if the whole of the milk had been treated alike. This therefore is the practice that is thought most likely to suit the frugal farmer, as his butter, though of a superior quality, could be afforded at a price that would always insure it a rapid sale."

THE DEGREE OF HEAT PROPER TO RAISE THE MOST CREAM.—The precise heat has not been fixed by experiment, but "from the trials that have been made on this subject, it is believed, that when the heat, is from 50 to 55 degrees in Fahrenheit's Thermometer, the separation of cream from milk proceeds with the greatest regularity, and in the most favorable manner. When the heat exceeds 60° the operation becomes difficult and dangerous; and when it falls below 40° the operation can scarcely be carried forward with any degree of economy or propriety."

ON THE PROPER TIME FOR SKIMMING MILK.—It is the opinion of some of the English writers, "that for *very fine butter* the milk ought not to stand more than 6 or 8 hours; for *ordinary good butter* 12 hours or more."

SKIMMING.—This requires a dexterity that can be acquired only by practice, but it must be well done, for if any part of the cream is left, the quantity of the butter will be diminished, and if part of the milk is taken, the quality will be the worse for it.

THE MODE OF KEEPING CREAM.—When the cream is separated from the milk, it ought to be put *immediately* into a vessel by itself. No vessel can be better adapted for this purpose than a neat made wooden barrel, in size proportioned to the extent of the dairy, open at one end, with a lid exactly fitted to close it. Close to the bottom, should be placed a cock, for drawing off, from time to time, any thin serous part of the milk, that may have generated, which, if allowed to remain, acts on the cream, and greatly diminishes the richness in the quality of the butter. The inside of the opening should be covered with a bit of close fine wire, to keep the cream back while the serous is allowed to pass; the top of the barrel should be inclined a little forward.

ON THE TIME OF KEEPING CREAM BEFORE CHURNING.—Epping butter is in high repute for its superior quality, and "the cream is seldom kept above 3, or at the furthest 4 days, but always till there is a certain degree of *acidity* in the cream either *natural or artificial*, as without it they cannot ensure a good churning of butter; some keep a little old cream for this use, otherwise a little rennet:"—

In Suffolk in a large dairy, with a high character for making butter of a superior quality and where the butter was to be sent *directly* to market, the cream was churned the second or third day, but when it was to be salted, it was kept a day or two longer, or till it had acquired a certain degree of acidity. The reason assigned was, "that butter from the freshest cream was better and pleasanter to the taste, but that which was kept longer would take the salt better."

From the result of the experience in England, and experience and observation in this country, it is well ascertained, that *acidity* in the cream is absolutely necessary before butter can be produced. It is for this reason that it is difficult to produce good butter in winter. Heating the cream with warm water is a common practice, and it is a long while before the butter is produced, and is usually white, hard, and bitter, with very little taste. The writer has in times past mixed, in winter and spring, used a small quantity of vinegar which has never failed to produce of a good effect. But the Epping practice of using rennet is recommended. If acidity in the cream is necessary, and this is acquired by standing, the following course is suggested to prevent the churning of *new* and old cream at the same time.

If the dairy is large and cream is churned three times in the week four vessels to hold cream should be provided and two day's cream put into one, say Monday's and Tuesday's, and churned after the acidity has taken place, and the amount of the acidity must be regulated by experience.—An extract from Dr. Anderson will close this head. "The separation of butter from cream, only takes place after the cream has attained a certain degree of acidity. If it is agitated before the acidity has begun to take place, no butter can be obtained, and the agitation must be continued until the sourness is produced, after which the butter begins to form. In summer, while the weather is warm, the beating may be continued until the acidity is produced, so that butter may be got; but in this case the

process is long and tedious, and the butter for the most part, of a soft consistence, and tough and gluey to the touch. If this process is attempted during the cold weather in the winter, butter can scarcely be in any way obtained, unless by the application of some great degree of heat, which sometimes assists in producing a very inferior kind or butter." The judicious farmer should not attempt to imitate such practice, but allow his cream to remain in the vessel for keeping it, until it has acquired that proper degree of acidity that fits it for being made into butter with great ease, and by a very moderate degree of agitation; by which process only very fine butter can be prepared.

CHURNING.—The process of churning is necessary to force out the serous fluid from the cream in order to produce butter. This is done by agitation and in a churn. There are various kinds of churns, but the best churn is the one that will preserve the proper temperature, or the same temperature that is in the churn and cream when put into it. In warm weather cold water for some time is to be put into the churn, and in cold weather scalding water, and also putting hot or cold water in the cream according to the season. As it is important to preserve the same temperature while churning—the best churns are those which are used in an horizontal position—such as stationary barrel with dashes to move in the inside. A small churn is in use on this principle, and answers a good purpose, as a hole of sufficient size from one half an inch to an inch, may be made on the top, to let out the warm air produced by the agitation of the cream, and to admit the cool air. A barrel churn of this kind has been used, when 36 to 38 lb. butter was made twice a week. An extract from Dr. Anderson is given to show great care is needed in churning.

"In the process of churning greater niceity is required, than most persons are aware of, a few hasty irregular strokes may render the whole of the butter of scarcely any value, and, but for this circumstance would have been of the first quality."

MAKING UP THE BUTTER.—It is not necessary to describe the common mode of preparing the butter for market, when taken from the churn. The object is to take from the butter all the serous liquor—which is done by letting it off, and washing the butter by the change of water until it is pure, and not discolored. The advantage of the churn above recommended is going throuh this process without the use of the hand—and working the butter after it is separated from the serous liquor. Even the salt may be worked in, in the churn. If butter worked in a barrel churn where was put ½ an ounce of sugar, salt petre and salt to a pound of butter into the churn and when well worked it was put in thin layers in firkins with another ½ ounce of the above spread on each layer. This butter was sent to the West Indies, and a firkin was kept until the vessel returned with lumber from a Southern port, and was in prime order.

It is agreed by all good butter makers "unless the milk is *entirely taken away*, the butter will infallibly spoil in a short time, and if it be *much worked* the butter will become tough and gluey, and it should be salted *as soon as the milk is removed*."

C. V.

From the Genesee Farmer.

OMITTED DEPREDATORS, BY OBSERVER.

MR. TUCKER—I perceive that a correspondent of your valuable journal has been furnishing you some papers on those beasts, birds, and insects, that detract so largely from the profits of the husbandman; but there are two of the most prominent ones he seems to have overlooked, and the object of this paper is to bring them before the readers of the Farmer, that their just deserts may be awarded. The first of these nuisances and pests of the farmer, is the Dog. Altogether they are most worthless and useless. Take them from the highest to the lowest, from the mastiff to the lap-dog—puppy, whelp, hound, and cur-dog—all should by the farmer be placed under the ban of proscription, and banished from the premises. To use a common phrase, they all cost more than they come to; and if they are sometimes found useful, such instances are the exception, not the rule. That the dog has exhibited at times noble qualities, I do not deny; but the question with the farmer is one of profit and loss, and if he keeps a dog he should keep him for the same reason that he keeps a horse or an ox, because he is profitable. But, says one, "I cannot do without a dog; I must have one to drive hogs from my door, my yard, or my sheds; I must have one to keep my own creatures and those of my neighbors' out of mischief; to watch my house and barn and keep off thieves and vagrants." Well, then, keep a dog, but let me tell you that if you rely on a dog fence, neither your dog or yourself will find the business of keeping creatures out of mischief a sinecure. No, kill your dog, and instead of relying on him, put up your fence as a farmer should—do not leave rails off, or your fences down, to invite cattle to be unruly; kill your dog, and my word for it, unless your experience should be very different from mine, the two barrels of soap you may annually make from what your dog would eat—that is, if he is properly fed at home, and not left to prowl over the neighborhood and steal his living—will more than pay for all you will have stolen from you. It is a fact which will not admit of dispute, that the dogs in this State will kill more sheep, and in this way injure the farmer more than all the wolves to be found in our limits, and to reward the killing of which, much money is and has been annually paid; and more human lives yearly fall before that incurable and frightful malady the hydrophobia, than have been lost by wild beasts since the settlement of the country. I say then, let the dog law of the state be strictly and rigorously enforced, and if a man will keep a dog, or half a dozen of them, to vex and injure his neighbor, let him pay for what he considers such a privilege; and when they are caught trespassing, let the penalty of the law in its length and breadth speedly overtake the depredator.

The other instance of omission on the part of your correspondent to which I have alluded, is in case of an animal that perhaps cannot be better described than in the words of the celebrated Lawrence, who is in his Theory of Life, gives the generic and specific characters thus, viz: "Order, bimanum (two handed); genus, homo; the species, single, with several varieties: characters, erect stature; two hands, teeth approximated and of equal length; the inferior incisors perpendicular; chin prominent; rational, endowed with speech, unarmed, defenceless." Had the learned professor added, "wonderfully addicted to theft," the description would have been complete. The very frequency of this animal's depredations have contributed mainly to the impunity it enjoys. Straddling and shock-headed—idle and vicous in the extreme—it lazily passes the hours of labor, coiled up in the sunshine, or otherwise inviting repose; but no sooner does darkness come on than it rouses its energies, and commences all manner of depredations.—Omniverous in its tastes and habits, nothing comes amiss; and in its tastes and habits, nothing comes amiss; and in its predatory excursions the most incongruous articles are gathered into its receptacle of plunder. Pork from the barrel, butter from the larder, grain from the granary, corn from the field, hams from the smoke-house, fowls from the roost, clothes from the drying-line, melons from the bed, and all kinds of fruit from the tree, are appropriated to their use as inclination may dictate, or opportunity offer. They have been observed to be particularly fond of new things, and in some sections of the country the propagators of rare and valuable kinds of vegetables and fruits, find it difficult to preserve enough from their ravages to furnish a specimen of the kind and quality. A few years since I called on a friend very nice in such matters, and where a number of gentlemen happened to be present. He was showing us his fruit orchard, and among other rare specimens, exhibited to us a new plum, which he valued very highly, and which then had several nearly ripe and beautiful looking on the tree, the first it had borne. While describing the reported qualities of the fruit to us, a bare-footed and wild looking animal of this depredating kind approached; and listening to what was said, no sooner had we left the tree to taste a delicious peach, than with a most mortifying dexterity he seized on the valued plums, which speedly disappeared in his capacious gullet, leaving the owner to wait another year for the uncertain privilege of fully testing the qualities of his own fruit. All good citizens should unite to check at once the operations of the light fingered pilferers; and as the law is fortunately in this case on the side of the honest man, nothing seems to be wanting but active co-operation, and a vigorous enforcement of its salutary provisions.

We have been applied to frequently for information in regard to the progress of the "Water Works," both by citizens and others, taking an interest in an undertaking of such magnitude. During a recent visit to Philadelphia, we felt jealous of our fellow citizens, where we beheld the pure and sparkling water poured over the streets in every direction, and tempering the heat of an otherwise insupportable day.

The following is the first official report, that we have seen published since the commencement of the undertaking. We hope that the difficulties may be removed forthwith, and that we may safely enjoy the pleasure of the introduction of that purest of all streams, the Croton—in anticipation at least.

BOARD OF ALDERMEN.

August 1, 1836.

The following communication was received from the water commissions, which was laid on the table, and 500 copies ordered printed.

J. MORTON, clerk.

—

To the honorable the common council of the city of New York.

The water commissioners beg leave to lay before the common council a brief statement of the situation and progress of the great work they are engaged in, commencing at the date of their first entering upon the duties of their office, and continuing down to the present period. They have deemed this expose necessary, both for the information of the citizens generally, as well as that of your honorable body; the first being the source from whence the means are derived, and the second the legal check upon any improper use of those means.

Under the temporary act of the legislature, passed the 26th of February, 1833, the commissioners were only authorised to examine the feasibility and expense of supplying this city with pure and wholesome water, and by the authority given them by this act, they appointed Canvass White and David B. Douglas, esquires, civil engineers, to ascertain whether any of the streams or rivers, in the county of Westchester, would afford such supply, and the practicability and expense of introducing it. Mr. White, however, was prevented by sickness from performing his portion of the work, and it devolved on Mr. Douglas to make the necessary examinations. He reported to the commissioners on the first of Nov. 1833, that the Croton was the proper source; the quantity ample, the practicability of introducing it undoubted, the cost about five millions of dollars, and the time required about five years. He furnished them at the same time, with a large map of the country designating the several trial levels he had run, and the line finally fixed upon for the aqueduct from the Croton to the Harlem river, and from thence to the several reservoirs on the island of New York. On the 12th of November, the commissioners reported these facts to the common council, with such observations as the subject appeared to call for from them.

The act of the legislature, under which the commissioners are now organised, was passed the 2d of May, 1834. This act authorised a re-examination of the whole subject; directed the commissioners to agree upon a plan for introducing a sufficient quantity of pure and wholesome water in the city, and to report the same to the common council.

In the month of July following, the Common Council passed an ordinance appropriating $500 to defray the expenses of re-examining the subject and the commissioners immediately thereafter engaged David B. Douglas and John Martineau, Esquires, civil engineers, to make the necessary surveys and levels of the whole route from the Croton to this city. Mr. Martineau completed his work, and presented his report on the 25th January, 1835, and Mr. Doughlas on the first of February next thereafter—both reports were accompanied with maps and drawings in elucidation on the subject.

The report of the commissioners was presented to the Common Council on the 16th of February, 1835, and in the month of March thereafter, the plan proposed by the commissioners was approved and ordered to be submitted to the electors at the ensuing election for charter officers, in April; and it was adopted by the electors by a large majority of eleven thousand three hundred and sixty-seven votes.

In the month of May following, the Common Council passed an ordinance instructing the commissioners to proceed with the work, and authorised the creation of a public stock or fund, to defray the expense of carrying the said plan into effect.

On the 2d day of June thereafter, the commissioners appointed David B. Doughlas, Esq. their chief engineer, and directed him to organise a proper corps of engineers as soon as practicable. He reported as necessary to form said corps, 5 engineers, including himself, 5 rodmen, and 7 laborers and chainmen, who were duly appointed by the commissioners. The party, consisting of 17 persons, proceeded to the field of operation, and commenced work on or about the 6th day of July, 1835. They were directed first to run and stake out a line around the reservoir, to be formed by damming the Croton; the line to include one rod of land above that which would be overflowed by the backing up of the water of the river, and George W. Cartwright, Esq. was engaged to survey the land that would thus be overflowed, and to furnish the commissioners with maps of the quantity belonging to each individual.

They were next directed to stake out the line of the aqueduct from the Croton to the Harlem river, and also the width of the land required for building said acqueducts and culverts, and forming the necessary excavacations and embankments.

The commissioners are not authorised to use any of the land necessary for the works until it is acquired either by purchase or by appraisers appointed for the purpose by the chancellor. It was, therefore, important that they should be put in possession of proper maps of the land, both of that necessarily to be overflowed, as well as that on which the acqueduct was to be built, in order that they might inform the owners of the quantity wanted, and be prepared to negotiate with them for its purchase.

The quantity of land to be overflowed was furnished the commissioners by Mr. Cartwright, in the month of November, 1835, and they immediately commenced negociations with the owners for its purchase. They were enabled to purchase of the land around the Croton reservoir, two hundred and forty-one acres forty-four hundreths, and there still remain to be purchased or to be acquired through the intervention of commissioners, two hundred and fifty-four acres forty-eight hundreths.

The engineers spent the whole summer of 1835 at field-work, and did not leave that work until about the eighth of January, 1836. A party was then formed for office duty during the winter, consisting of eight persons, including the chief engineer.

The necessity of possessing the maps of the land, on the line of the acqueduct, was repeatedly urged on the attention of the engineers, but they were not completed when the time arrived for the party again to take the field, which was on the 11th of April, 1836. The whole line of acqueduct has been resurveyed during the present summer, being the fourth survey and level of the line under the direction of the present engineer, and as a reason why the maps were not prepared at an earlier day, we are informed by Mr. Douglas that some important improvements had been made in the course of the aqueduct, that would shorten the distance, and lessen the curves, and it was therefore only on the 11th of June, 1836, that we were put into possession of a portion of the aforesaid maps, and the remainder of them was furnished on the 17th of the same month.

The number of persons composing the engineer corps, now consists of seven engineers, including the chief, eight rodmen, and four chainmen and laborers, making a total of nineteen persons.

During the session of the legislature of 1836, a very strong remonstrance was presented to that honorable body by some of the inhabitants of Westchester, against the provisions of the act, authorising the necessary land to be taken by commissioners, and complaints were also made to the water commissioners, by others, that the act of the 2d of May, 1834, did not sufficiently secure their rights. The first complaints proposed,

1st. That the legal possession and the use of the land should remain with the original owners, after being paid for by the corporation.

2d. That if the land was not used for the aqueduct, after being paid for, it should revert back to those from whom it was obtained.

3d. That provision should be made to prevent trespasses on the property of the inhabitants.

4th. That the persons through whose land the aqueduct passed, should have the

right to use the water, by allowing reasonable compensation for it.

5th. That the judges of the county courts should act as appraisers, instead of commissioners appointed by the vice chancellor.

The second complainants contended that the corporation ought to be prohibited from using the land required under the act for any other purposes than that of supplying the city with water, and should it not be used for said purpose, that it ought to revert to the person from whom it was taken, he paying back the sum received for it.—That necessary fences should be erected and sustained by the corporation, and convenient passes made under and across the aqueduct, where it intersects the land of an individual owner.

The remonstrance to the legislature by the first complainants, was effectually opposed by the commissioners, and no order was taken on it by that honorable body; but the complaints of the second appeared to the commissioners reasonable, and an act was accordingly passed on the 26th of May, 1836, embracing the aforesaid provisions, to which the commissioners could see no objections.

The commissioners were in hopes that the passage of the aforesaid act, would convince the people of Westchester that they were anxious to secure to them every right and privilege that could be reasonably required. It appears, however, that there are still dissatisfied persons among them, as by the proceedings of a meeting lately held at Tarrytown, it is said, a remonstrance in the form of resolutions was passed, which, among other inadmissible demands, declares in substance that the taking of their lands will be resisted and carried up to the supreme court of the United States, unless the corporation will agree to indemnify the citizens of Westchester from all damage they may sustain by taking their lands, together with all such other damage as may accrue to them now and hereafter; intended no doubt to include any loss they may sustain by theft or other crimes committed by persons employed on the works. If this is not the meaning, why is it that they oppose the act of 1834, which provides compensation for all damage sustained in taking the land or water or affected thereby? The 13th section declares that "In case of disagreement between the commissioners and the owners of any property which may be required for the said purpose, *or affected by any operation connected therewith*, as to the amount of compensation to be paid such owner, the vice chancellor of the first circuit may, upon the application of either party, nominate and appoint three *indifferent* persons to examine such property, and to estimate the value thereof, *or damage sustained thereby*."

How in justice more can be required than what the law provides, the commissioners are unable to perceive. If the corporation agreed to the demands made in the resolutions said to be passed at the meeting alluded to, it would in effect, as the commissioners view it, amount to the proclaiming of a premium for the commission of crime; for how many men would be found, under such circumstances, scrupulous about taking from another, what they wanted, if they knew they were not to be prosecuted for it; or how many of the people of Westchester are there who would take the trouble of prosecuting for any losses, when in order to be indemnified, they would only have to present their bills to the city comptroller for the payment of such loses?

The citizens of New-York, it is admitted, will be greatly benefitted, but at a very heavy expense. They are not the only portion of the community, however, who will reap advantage from the project. The city of New-York is the principal mart of these United States, and those who send the produce of their farms to this market for sale, or who come there for the purpose of purchasing domestic or foreign produce, will enjoy, as well as our own citizens, the benefit of a plentiful supply of an element of the first necessity, from the use of which they can feel assured that no injury will ensue to the constitution or the health of the partaker.

The county of Westchester is more particularly interested in this matter than any other portion of the State, except the city, and that in several ways.

First, by the increase of the population and prosperity of New-York, she is insured a good and unfailing market for all the surplus produce of the county.

Second, the land required for the work is chiefly of second rate quality, the price paid for it will be liberal, and will produce a greater income to the owner than what would be realized from its cultivation; and

Third, the large amount of money that will be expended in the county, will naturally tend to increase the trade of the place, and thereby not only benefit the farmer, but the merchant and mechanic also.

The unfortunate prejudices engendered by the proceedings alluded to, have prevented the commissioners from bringing any farther negociation for the land required to a favorable issue, and they have accordingly applied to the vice chancellor for the appointment of commissioners to take by appraisement some pieces of land belonging to James Griffin, James Palmer, Zophar Palmer and Joshua Purdy, lying in the vicinity of the site for the Croton dam, which application has been acceded to, and the business is believed to be in a progressive state.

It will be seen from the above that the principal obstacle now in the way of proceeding with the work is the difficulty to be overcome in obtaining the necessary land. The commissioners, however, are still in hopes that after the proper explanations shall be made to the inhabitants of Westchester, most, if not all these difficulties will be removed.

At a meeting of the commissioners on the 23d of July, 1836, the chief engineer was required to furnish them with plans and specification of the Croton aqueduct, the several tunnels throughout the line of aqueduct, the several embankments on said line, the several culverts on the said line the Croton dam, the piers and bridges for crossing the Harlem river, &c. with proper descriptions of the materials to be used, the manner in which they shall be worked together, and other necessary information preparatory to the making of the contracts; which he has promised to furnish as soon as practicable and the commissioners are in hopes that if they succeed in obtaining the land, to estimate the value of which commissioners have been appointed, and shall receive from the engineers the necessary plans and specifications, they will still be enabled to place some part of the work under contract before the close of the present year.

All which is respectfully submitted.

STEPHEN ALLEN,
BENJAMIN M. BROWN,
WILLIAM W. FOX
CHAS. DUSENBBRRY,
SAUL ALLEY,
} Water Commissioners.

Office of the Water Commissioners, August 1st, 1836.

CLOVER LEYS.

It will undoubtedly be remembered that innumerable experiments have proved that clover leys, turned under, make an admirable dressing for a crop of wheat the next year. Clover, if we mistake not, is a biennial—that is, lasting but two years, after flowering and going to seed the second summer, the roots begin to decay, and ultimately die out and leave the soil for the Herd's grass, or other plants which may be sowed with the clover. Hence it will be well, in order to make the most of the roots as a dressing for wheat, to plough them under as early in the season after haying as can conveniently be done. By the following spring the sod has become decayed, and in a good state to promote the growth of the future crop.

CANAJOHARIE AND CATSKILL RAILROAD.—We understand that there is a determination to crowd this important work to a speedy completion. This road aside from its general advantage, will be of essential benefit to the section of country through which passes, and when finished must add greatly to the prosperity of our neighboring village of Canajoharie—its northern termination. In this age of improvement, when capital and enterprize, public and private, are so much for the country, we rejoice that OLD MONTGOMERY is in a fair way to participate largely of the benefits of contemplated as well as existing works.

The "*Medina & Darien Rail Road*," says the Herald is completed as far as Akron, Erie County, a distance of 16 miles, and several cars running on it. The road will shortly be completed to Richville, Genesee County, in all twenty miles, where it intersects the Batavia and Buffalo road.

From the Genesee Farmer.

THE DAIRY—ITS PROFITS.

BY W. G.

The first object of a farmer in cultivating the soil is profit; and next to this is the desire of securing the first with as little expenditure of labor and means as is possible. To do this the quality of the soil, its condition, and the size of the farm, must be taken into consideration. Its very situation will in a great measure determine the first; its condition will of course be depending on the judicious or injudicious treatment it has received and as to number of acres, it is evident that without a certain quantity of them, some kinds of farming, such as grain raising, or wool growing, cannot be profitably undertaken. Perhaps there is no one branch of farming that can be so readily adopted to all farms great or small, as the dairy; and while it is clear to raise grain extensively a large farm must be required, and much labor and money expended, a medium farm, one of eighty or a hundred acres will be found best calculated for the dairy, as the hiring of assistants can usually be dispensed with in such cases. For a man with but forty acres to attempt the raising of grain for sale, and at the same time keep the necessary horses and cows and sheep required to cultivate the farm, and supply the family, would be an unprofitable undertaking; but on such a farm a dairy may be kept that will be a source of great profit, when compared with the capital invested.

To make this matter clear, it may be best to make a few estimates, in all cases getting as near well established results as possible, and where any thing must be left to conjecture, always being careful to err on the safe side of the calculation. A farmer wishes to commence a dairy with ten *good* cows, not herd book stock, but good native animals. The price of cows for several years past in the spring of the year has varied from 18 to 22 dollars—we will call it 20—thus making the cost of his cows 200 dollars. For pasturing cows it is generally estimated that two acres to each one will be required; and it may be so as pastures are generally laid down, but where the turf is clean and close and the soil in good heart, we are confident something less will be sufficient to give them every advantage. The interest on the twenty acres required, for six months, the time the dairy will be in operation, at 30 dollars per acre, will be 21 dollars. The interest on the money invested in cows, will be 7 dollars. A dairy maid, if one is required, for 6 months, at a dollar per week, twenty-six dollars. The expense will stand thus:

10 cows, at $20 each,	$200 00
Interest on do. 6 months,	7 00
Interest on 2 acres to each cow,	21 00
Dairy maid 6 months,	26 00
Total expense,	$254 80

If a dairy is a cheese dairy, much will be depending as to the receipts, on the qualities of the milk produced, and the skill shown in making. The quantity of cheese produced, varies much in different dairies, and in estimating profits a medium rate must be selected. Mr. Brown, of Otsego county, made from thirteen cows 4700 lbs. of cheese, or 361 lbs. to each cow. Mr. E. Perkins, of Trenton, Oneida county, from 78 cows, made 32,000 lbs. or 410 lbs. to each cow; and in the same communication he states, that the dairies in that cheese making region vary from 200 to 500 lbs. of cheese to a cow. Some experience in the dairy business, and an acquaintance with a dairy district, leads us to suppose that 350 lbs. to each cow would not be an extravagant estimate. The average price of good cheese when sufficiently ripe for sale, for several years past, has not been less than 8 cents per lb., and many dairies find their sales have averaged 9 or $9,50 per cwt. Making our estimate at 8 cents per lb., the receipts of a dairy of ten cows would stand as follows:

3500 lbs. cheese, 8 cts. per lb.	$280 00
100 lbs. butter, 15 cts. per lb.	15 00
Whey for swine, $2 per cow,	20 00
	$315 00

Making the receipts from each cow for six months $31,50—or if we deduct the butter as being most of it necessary in the dairy room, it will leave the sum of 30 dollars per cow. In some of the best dairy districts of New-England, it has been common to dispose of the cows to drovers after the dairy season has closed, but little feeding being generally required to make them good beef. Cows are not as high in the fall as in the spring, by about 20 per cent., and if our farmer determines to sell his cows in preference to keeping them over the winter, they will bring him about 160 dollars.—This sum must be added to the receipt of the year, making a total of 475 dollars.—The whole will then stand thus:

Receipts,	$475 00
Expenses,	254 00
	$221 00

Giving to the farmer a clear profit of eleven dollars upon each of the twenty acres used for the dairy. It must be remarked, however, that to produce this result, the cows must be in good heart and tolerable order on the first of May, and have good feed for the summer. Cows that "shirked" through the winter, and pasture on daisies, johnswort, and thistles, through the summer, will not reach the above mark, and the owners may think themselves fortunate if the "summing up" should not show a balance the other way.

If the dairy is to be devoted to making butter, there will be but little difference in the result; though if conducted under favorable circumstances, we think making butter rather more profitable than cheese.—Many persons, however, connected with the dairy, think otherwise, and the odds at any rate cannot be very great. To make butter through the summer, the dairy must be so situated and constructed, that a uniform proper temperature may be maintained, as it is well known if the temperature is too low, the cream will be so long in rising as to become bitter; and if too high, as is usually the case in the summer, the milk sours before the cream has time to separate, by which much of the cream is lost, and the butter rendered of an inferior quality.—In making butter, more is depending on the quality and richness of the milk, than in making cheese, as some cows from the same quantity of milk will give double the amount of cream that others will; and hence the selection of animals must be made with reference to this very point.—This fact accounts for the discrepancy shown in the quantity of butter produced in different dairies, and the varying estimates consequently made of the butter each cow will produce in a season. There are some cows that will make a pound of butter a day for seven or eight months, with good keeping, and there are others, that if they give half a pound a day may be considered as doing well.

The breed of cows has a great influence in determing the quantity or quality of the milk. The Earl of Chesterfield a short time since instituted a series of experiments on some favorite cows of different breeds, the result of which was as follows: "In the height of the season the

	Qts. milk.	Oz. butter.
Holderness gave per day,	29	38½
Long Horn,	19	25
Alderney,	19	25
Devonshire,	17	28
Ayrshire,	20	34"

That there are few, if any cows, of our native breeds that will approach this quantity of milk or butter, most must be willing to admit; indeed, an able writer on cattle in the Farmer, thinks that few dairies, or cows, in this country will average more than from 160 to 170 pounds a year. From some experiments we have made, and the reports of some few ordinary dairies for butter, we are disposed to dissent from this writer, and believe that with ordinary care in the selection of cows and the management of the dairy, 200 lbs. may easily be reached. Mr. Curtis, of Marblehead, from common cows and ordinary pasture, for three years, made butter as follows:

1828—8 cows,	1272	lbs. butter.
1829—7 "	1175	"
1830—6 "	1090	"

Which last is at the rate of 181 pounds to a cow, and that under unfavorable circumstances to make the most of the milk. We know of cows that produce a pound a day for at least three months in the hight of the season, and that without extra care or feed; still, a native cow, to do this, must be good. For three years past, butter, taking the whole season, will average 15 cts. per lb., and calling the amount produced from a cow 200 lbs., the balance would stand thus:

Butter from 10 cows, 2,000 lbs.	$300 00
Skimmed milk $3 per cow,	30 00
	$330 00

Making a difference of fifteen dollars in favor of butter over cheese making. Where the milk is churned new from the cows, the quantity of butter will of course be greater, but we have never made it in that way, and have no authentic information by which the difference, and of course the profits, can be correctly estimated.

Various estimates have been made of the expense of getting in a crop of wheat or corn; but where wheat is put in after a summer fallow, as is usually the case, the expense of the ploughings, harrowings, seed, interest, and wear of implements and the land, cannot be estimated at less than ten dollars per acre. Admitting the average crop of wheat to be twenty bushels per acre, which must, taking the whole, be considered liberal, and a profit of ten dollars per acre, wheat at one dollar per bushel, which may be considered the average price, will be the result. It would be easy to make a list of the items of expense and profit, but there can be no necessity for it here, as every wheat grower can make the estimate for himself, if he needs to be convinced that the above estimate is not far from the truth. If the crop to be compared is one of corn, estimates made with great care by Judge Buel, Clark, and others, show that in ordinary cases the expense of a crop, including labor, seed, use of land, &c., is at least fifteen dollars per acre. The profits of a corn crop are more variable in our latitude than most others, sometimes running very high, and at others being literally

nothing; and we believe that if the average estimate of profit on an acre of corn is put the same as wheat, it is as high as the experience of the farming community will justify.

If the above calculations are correct—and if they are not we should be happy to have the errors pointed out, by any one practically acquainted with the subject—then the difference in profit per acre between the dairyman and the wheat grower, is not so much in favor of the latter as has been generally supposed. It may however be said, that the practice of disposing of the cows by the dairyman after the season is closed, would in the end be suicidal to the business if generally adopted, and hence as a general rule the cows must be kept over the winter, making it necessary to deduct from the profits the expense of keeping through the winter. This may be admitted, and the result would then be as follows:—A cow will eat a ton and a half of hay in the winter, which at the average price of eight dollars a ton, would be twelve dollars for keeping; rather exceeding, if there is any difference, the neat profit on each cow the first season. It must be remembered, however, that if the produce of a good cow will pay for herself and her winter's keeping the first season, then the dairyman enters the field on the second year with an unencumbered capital; the cows are paid for, and the entire amount of their produce, with the trifling deductions above stated, are to be counted as profit. Let our dairy counties look at this matter carefully—it is well worth their attention. W. G.

MASSACHUSETTS HORTICULTURAL SOCIETY.

Saturday, July 30, 1836.

Proceedings of the Massachusetts Horticultural Society at a meeting held at the Hall of the Institution on Saturday, July 30, 1836.

The following Report was made by the President of the Society.

I have the pleasure to lay before the Society two communications from M. Emilien de Wael. This gentleman it will be recollected was the bearer of letters to the Society from Doct Van Mons and M. A. Poiteau, accompanying a donation of books, received a short time since. Mr. de Wael is an amateur cultivator and the Secretary of the Horticultural Society of Antwerp; he is now on a tour of the United States for scientific purposes, connected with Entomology and the examination of the marine plants of our country, and I have to congratulate the Society on the addition to its list of corresponding members of the name of an individual who is not only highly qualified, but who is entirely disposed to subserve its purposes at Antwerp, located as he is, in a country to which Horticulture, so far as *pomology* is concerned, is indebted for more numerous and valuable acquisitions, than to any other

Mr. de Wael's remarks on the results of various experiments made in Belgium to protect the Mores Multicaulis from the effects of cold must be interesting to those who are endeavoring to protect that plant from the severity of our own winters; it is desirable to know what is now considered the best method of cultivating it in other countries; for it is by a careful collation of facts, connected with its culture abroad in aid of the actual experiments making here, that we may hope shortly to overcome every obstacle to the extensive cultivation of that invaluable plant.

Respectfully submitted by

ELIJAH VOSE,

President of the Mass. Hor. Society.

Boston, July 25, 1836.

Since I have been in this country I have heard of several complaints, chiefly from the Hartford Mulberry tree planters, of the difficulty experienced the last two years in making the *Morus Multicaulis* stand your winters well.

This kind of mulberry is easily acclimated if a proper mode of culture be adopted in the places where it is planted.

In Belgium, the winters, notwithstanding they are not so severe as yours, often give us great trouble, and the influence of the cold was repeatedly experienced on these Mulberries, which were often killed down to the roots.

The late *J. Le Candele* of Humbeck, near Brussells, suggested the idea of having different modes of experiment adopted in distant places. And the one which proved most efficient, was to cut down yearly, the Morus Multicaulis, in the same manner as is done with willows in a *Salictum*, that is to say, at a few inches above the soil and to cover the remaining trunk with dead leaves; in three or four years, the roots being stout enough, they did not require any more covering. From the buds preserved on the plants, fine and hardy shoots came forth, giving larger and more lively leaves to feed the silk worms upon.

It has been since stated to me in a letter from Batavia, (Island of Java,) that this mode of culture is much in use near Manilla and in parts of China, not on account of the cold, but in order to keep the Morus in a shrubby state, which affords greater facility for gathering the leaves in the season when desired. There the mulberry seems to be planted in fields as Indian corn is here,—in the fall of the year the plants are deprived of their branches, the number of which is continually increasing, and growing in one season from five to eight—which growth is fully equalled by our own. I would advise a similar experiment in this State; it might, perhaps, answer well.

Most respectfully, your ob't. servant,

EMILIEN DE WAEL.

Hon. ELIJAH VOSE,

President Mass. Hort. Society.

A curious and sensible friend of ours has made a calculation of the difference to the farmer between having a *gate* to his inclosure, instead of *bars*; and has found that, on the supposition that the bars are to be taken but once each day, the difference in time for one year would pay for the erection of *three gates!* In addition to this a good gate is a pretty ornament to a farm. —[Bangor Farmer.]

INTRODUCTION TO A VIEW OF THE WORKS FOR THE TUNNEL UNDER THE THAMES FROM ROTHERHITHE TO WAPPING.

INTRODUCTION.

The constant demand of information concerning the unprecedented undertaking of a Tunnel or road-way under a navigable and tide river, must serve as an excuse for the few details which are here submitted.

A very superficial knowledge of the immense mercantile concerns carried on in the neighborhood of the river Thames below London Bridge, will instantly show the great utility, and the consequent importance, of an easy conveyance by land from shore to shore at that part of the river; and it appears that the only effective resource which could be contemplated as of permanent utility, is that of a Tunnel under the bed of the river, of sufficient capacity, however, to form a constant and uninterrupted public highway.

The project of a Tunnel under the river at Gravesend was put forward in 1799, but the scheme was soon abandoned; this was folled by an attempt to form a Tunnel from Rotherhithe to Limehouse in 1804, under the authority of an act of Parliament, at which time a shaft of 11 feet in diameter was sunk to the depth of 42 feet, and from difficulties then encountered it was for a time suspended, and afterwards continued at a reduced diameter of 8 feet, to the depth of 76 feet, at which depth a small driftway was carried therefrom under the river to the extent of 923 feet, and to within 150 feet of the opposite shore, when new difficulties having arisen, the engineer reported that further progress was impracticable, and the work was discontinued.

Various plans were subsequently proposed for working the Tunnel in the bed of the river, all of which, after a time, were abandoned. These proceedings are adverted to as establishing the fact of the importance attached to such an enterprise, as an object of great public utility.

Notwithstanding the discouraging results of the attempts before mentioned, immediately that Mr. Brunel in 1823 proposed and exhibited his plan for constructing at once, and on a full scale, a double arcade, forming an easy road-way under the Thames, it was not only well received, but liberally supported

by gentlemen of rank and science, undismayed by the extraordinary risks which an enterprise of such magnitude must present.

The spot between Rotherhithe and Wapping, selected for the intended communication, is perhaps the only one situate between London Bridge and Greenwich, where such a project could be attempted without interfering essentially with some of the great public mercantile establishments on either side of the river; the situation is about two miles below London Bridge, in very populous and highly commercial neighborhoods, where a facillity of land communication between the two shores is very desirable, and where a successful issue must be very advantageous not only to the immediate neighborhoods, but also to the adjacent counties.

While the necessary steps were taking to obtain an act of incorportion, and raise money to carry the plan into effect, the Committee of Subscribers employed a competent person, unconnected with the Engineer, to take borings across the river in that part, in three parallel lines; and on the 4th of April, 1824, he reported, that there was upon each line a stratum of strong blue clay of sufficient density and tenacity to insure the safety of the intended Tunnel, and of considerable value when the excavation commenced; upon this encouraging report the Committee approved of the locality proposed for the Tunnel.

This very satisfactory account relative to the soil found in the line of the intended excavation, induced Mr. Brunel to enlarge the dimensions of his original plan, and consequently the apparatus by which he intended to protect the whole of the excavation, until it was perfectly secured by the brickwork.

The act of incoporation of the Company having been obtained on the 24th of June, 1824, and Mr. Brunel duly appointed Engineer to the undertaking, he began his operations by making a shaft 50 feet in diameter, which he opened at 150 feet from the river. This he effected by constructing first a substantial tower of brickwork of that diameter, 42 feet in height and 3 feet in thickness, besides the coating; over this he set up the steam engine necessary for the drainage. He afterwards sunk the whole into the ground in the way that the shafts of wells are usually sunk. By this means he succeeded in passing through a bed of gravel and sand 26 feet deep, full of land-water, constituing in fact a quicksand in which the drift-makers had been compelled to suspend their work, and ultimately to reduce the dimensions of their shaft from 11 to 8 feet, as already mentioned.

While this operation was in progress, Mr. Brunel received an intimation from eminent geologists, warning him of the existence of a bed of sand lying at a greater depth, and advising him to keep as near as possible to the bottom of the river. This information corresponded with the account given by the drift-makers respecting the existance of a quicksand, and its depths beneath the level of high water.

The 50-feet shaft having been completed to the depth of 65 feet, a smaller shaft, 25 feet in diameter, destined to be a well or reservoir for the pumps, was afterwards sunk. But on approaching the depth of 80 feet, the ground gave way suddenly under this latter structure, which sunk several feet at once, the sand and water blowing up at the same time. Thus was the previous intelligence confirmed of the existence and the nature of the bed of sand in question. by which information the Engineer of the Thames Tunnel has been guided in the line that he has followed for his structure.

The shaft and reservoir having been completed, the horizontal excavation for the body of the Tunnel was opened at the depth of 63 feet: and in order to have sufficient thickness of ground to pass under the deep part of the river, the excavation was carried on a declivity of 2 feet 3 inches per hundred feet.

It must be remarked here, that the excavation which has been made for the Thames Tunnel is 38 feet in breadth, and 22 feet 6 inches in height, presenting a sectional area of 850 feet, and exceeding 60 times the area of the drift which had been attempted as before alluded to. For a more comprehensive illustration of the magnitude of the excavation made for the Tunnel under the Thames, it may not be improper to mention, that it is larger than the interior of the old House of Commons, which, being 32 feet in breadth by 25 feet in height, was only 800 feet in sectional area; and it may further be observed, that the base of this excavation, in the deepest part of the river, is 75 feet below high water.

It is by means of a powerful apparatus, which has been designated a "*shield*," (a view of which is given in one of the plates,) that this extensive excavation has been effected, and that the double arcade, which now extends to nearly the middle of the river, has at the same time been constructed within it. This shield consists of 12 great frames, lying close to each other, like as many volumes on the shelf of a book-case: these frames are 22 feet in height, and about 3 feet in breadth. They are divided into three stages or stories, thus presenting 36 chambers, or cells for the operators to work in—namely, the miners, by whom the ground is cut down and secured in front; and the bricklayers, by whom the structure is simultaneously formed from the back of these cells.

Powerful and efficient as this apparatus has proved to be in accomplishing so considerable a part of the work as that which has been done, the influence of the tide upon some portion of the strata that constitute the bed of the river, is a circumstance which contributed more than any other to increase the labor, and to multiply the difficulties, and also in giving them occasionally an awful character. That influence upon some of the strata, or upon some portions of the strata, has not been noticed by the drift makers, owing most probably to the circumstance that more than nine tenths of their excavation had been carried on under a bed of rock.

The shield was placed in its first position at the bottom of the shaft by the 1st of January, 1826, and the structure of the double archway of the Tunnel was commenced under a bed of clay; but on the 25th of the same month the substantial protection of clay was discovered to break off at once, leaving the shield for upwards of six weeks open to a considerable influx of the land-water, copiously issuing from a bed of sand and gravel fed at each tide: the progress of the work was in consequence much impeded during that time.

On the 11th of March this fault or break in the clay was cleared, and the shield being again under a bed of clay, the work proceeded, and on the 30th of June, 1826, arrived even with the margin of the river, increasing daily in its progress; and by the 30th of April, 1827, the Tunnel had advanced 400 feet under the bed of the river; these 400 feet of the Tunnel were excavated, and the double archways substantially completed with brickwork in ten months and a half. On the 18th of May, 1827, and again in the month of January, 1828, the river broke in, and filled the Tunnel, thereby occasioning the apprehension that this singular undertaking, which had given such great apprehension, and had caused so much excitement, not merely in England, but in all parts of the Continent, must be abandoned; but, after closing, with strong bags of clay, the holes or chasms in the bed of the river where the irruptions had occurred, upon re-entering the Tunnel the structure was found in a most satisfactory state, and perfectly sound, thus affording the strongest proof of the efficiency of Mr. Brunel's system of constantly protecting as much as possible every part of the soil during the excavation, and finishing the structure in the most solid manner as the work proceeded; it being evident that the work already done must have been abandoned, if any part of it had been carried away by the irruption of the river.

Subsequent to the irruptions of the river before mentioned, such was the desire to see the work completed, that several hundred plans were tendered for filling up the cavity, as well as for preventing future accidents. When the disadvantages are considered under which these proposals were made, without the projectors of them having possessed any information of the depth and rapidity of the river, of the curvature of its bed, or even of the nature of the soil under which the excavation was to be carried on, it cannot be surprising that the Engineer found among them no effectual remedy, or method of preventing a recurrence of accidents: all the plans, however, were duly examined, and attentively considered; and the Board of Directors expressed, under date of the 16th of December, 1828, their obligations to the many scientific men who had so spontaneously communicated their several ingenious plans for securing the completion of the undertaking.

With regard to the projects which were offered for the continuance of the work, if the authors had previously informed themselves of the several strata of earths through which the excavation was to be made, they would not, as men of experience, have proposed them for adoption. It being as impossible to proceed with the excavation, and the formation of the arches, without constantly and effectually supporting the soil in every direction, as that an engineer could erect the piers of a bridge without preventing by his coffredam the influx of the water: and in this respect no attempt was made to point out a more secure mode of proceeding, or any improvement in that all important shield, which has gradually advanced a distance of six hundred feet, under the constant pressure of a vast mass of soil, ill-suited, in point of consistency, to bear the pressure of the water above, varying, but amounting, at ordinary full tides, to that of a perpendicular column of 35 feet.

The works having remained in a state of total inactivity during a period of seven years, have been recommenced under the most favorable auspices; and from the experience gained during the progress of this unprecedented work, the difficulties which have been heretofore overcome, and the measures which will be adopted for preventing future accidents, there is very little probability of any circumstances occurring to hinder the complete success of this important undertaking.

September, 1835.

Fig. 1 is a view of Wapping, with the churches of Shadwell and St. George's in the East at a distance, and a transverse section of the Tunnel, with a view of the workmen in the different cells of the shield.

Fig. 2 is a view of the western archway of the Tunnel, lighted by gas, as it now appears.

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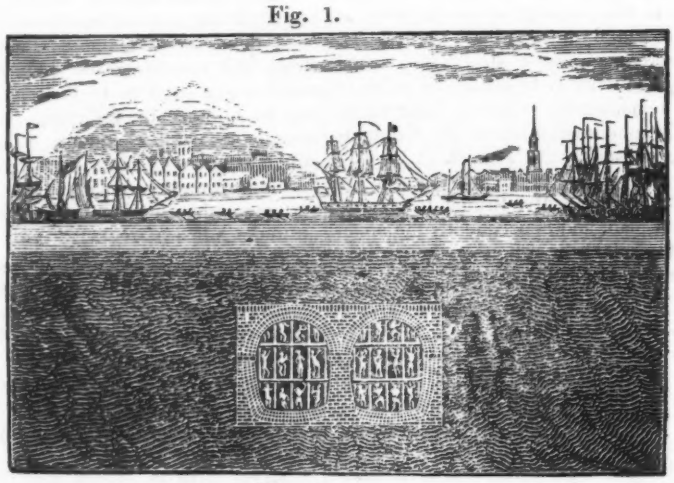

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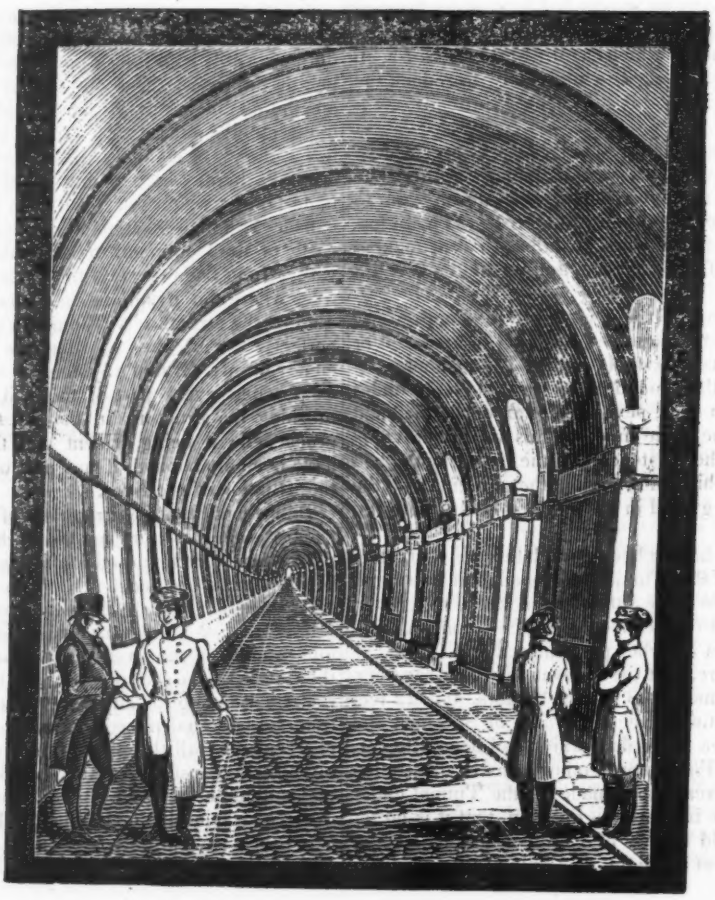

The annexed plan will show the situation of the Tunnel with reference to the main roads leading to it.

The distance from
- London Bridge along Tooley Street is 2 miles.
- The Great Kent Road - - - - - - - - 1½
- Greenwich Church by Deptford Creek 2¼
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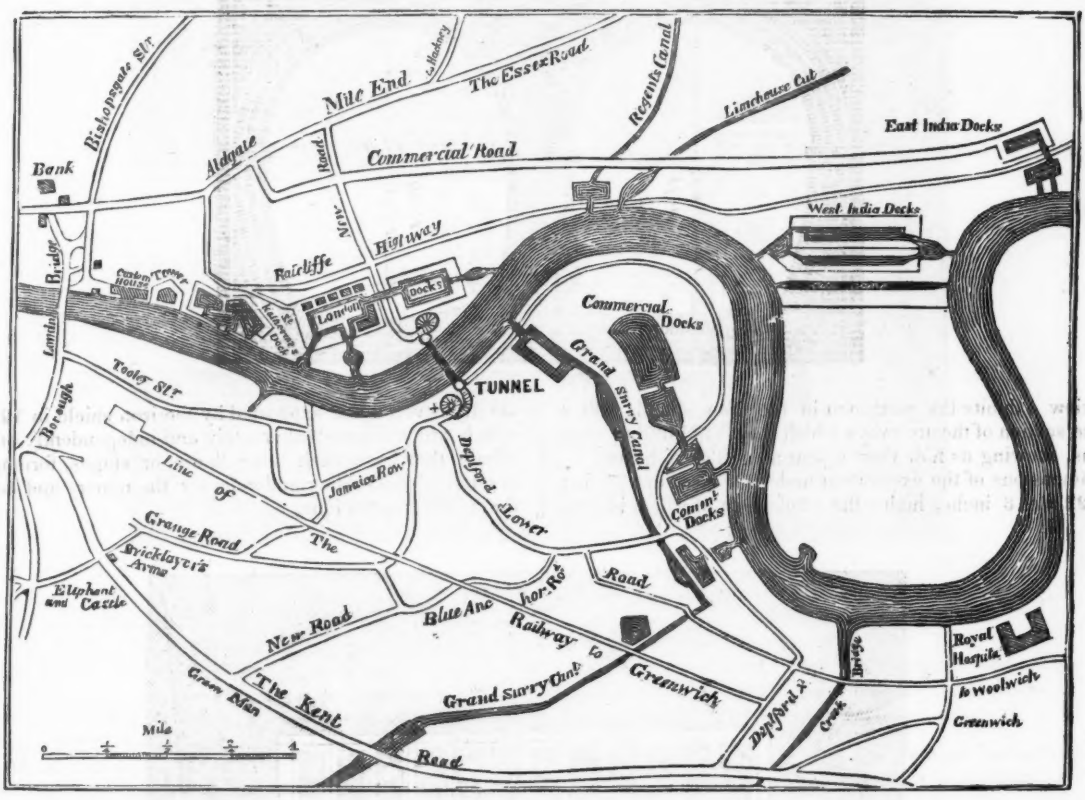
To facilitate the access to the Tunnel for the large population in its immediate neighborhood, it is intended to make the carriage descents circular, and they will not exceed in any part the slope of Ludgate Hill, or Waterloo Place, Pall Mall.



The shaft, from whence the Tunnel works are carried on, was built at Rotherhithe in the form of a tower, 50 feet in diameter, 40 feet in height, and 3 feet thick, at about 150 feet from the edge of the wharf, and it was sunk into its position by excavating the earth within. In the annexed sketch the brick-work is supposed to be broken open, to show its construction, and the numbers below refer to the different parts of that "tower," which row forms the shaft, and is intended finally to be occupied by an easy double flight of granite steps, for the use of foot passengers through the Tunnel.

1.1. The wooden rings or flat curbs.
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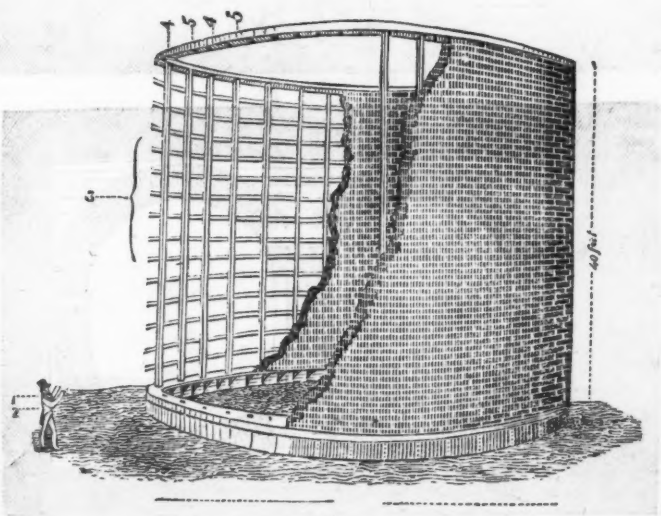
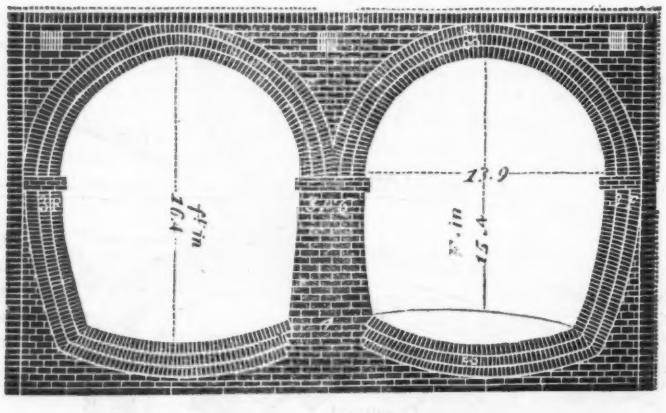


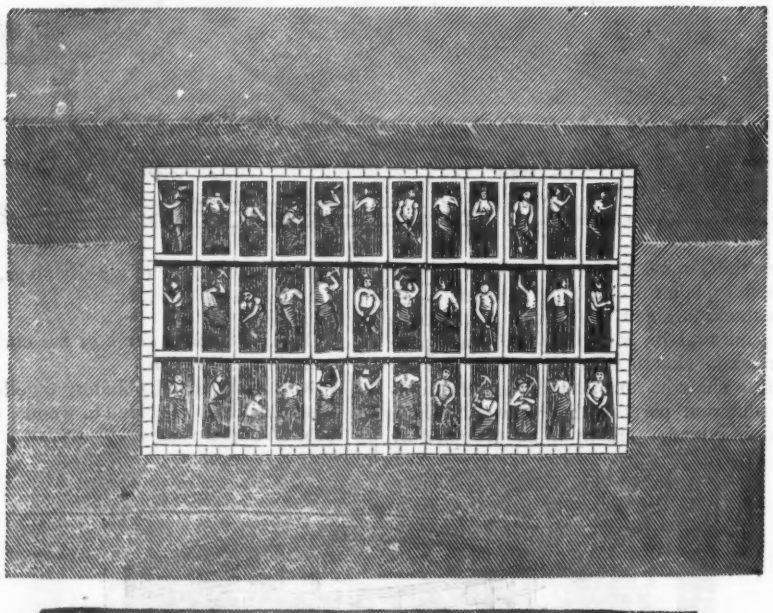
A transverse section of the Tunnel is here given, showing the dimensions of the mass of brick-work, which is all firmly set in cement.

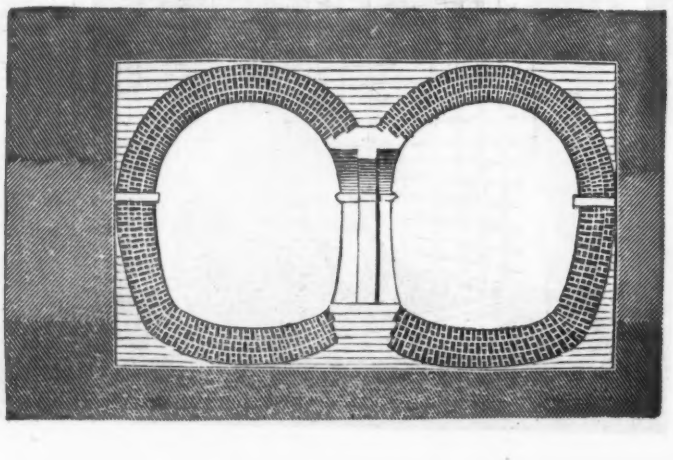
It must be observed, that the middle wall is, for greater security while in progress, built quite solid; but for convenience, light, and general effect, a succession of arches are opened in that middle wall, so as to admit of frequent communications between the two carriage ways.



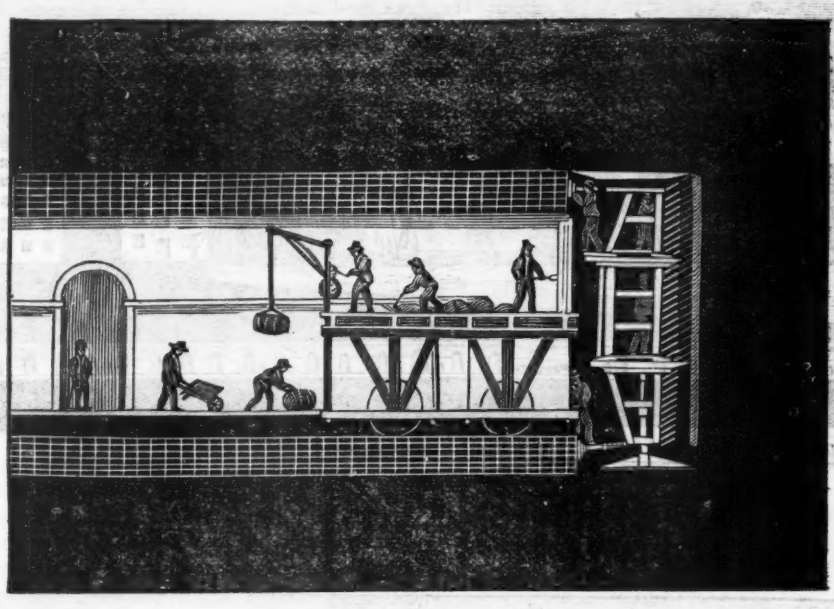
This view exhibits the workmen in the iron shield, with a transverse section of the archways which they build during their operations, showing us how they appear along the archways.

The dimensions of the excavation under the river are 38 feet wide by 22 feet 6 inches high; the whole area of which is constantly covered and supported by the iron shield in 12 divisions which are advanced alternately and independently of one another; they have each three floors, or stages, forming a succession of scaffolding and cells for the miners and bricklayers during their operations.





A longitudinal section of about 40 feet of the Tunnel, with a side view of the shield, and the miners as well as bricklayers at work. This sketch represents also the moving stage, with two floors, used by the miners to throw thereon, for removal, the earth they excavate; and where the bricks, cement, and other materials, are placed in readiness for the bricklayers. Towards the head and foot of the shield is also shown the position of the horizontal screws, a pair of which being attached to each of the divisions, and turned so as to press against the brick-work, are used to push each division forward.



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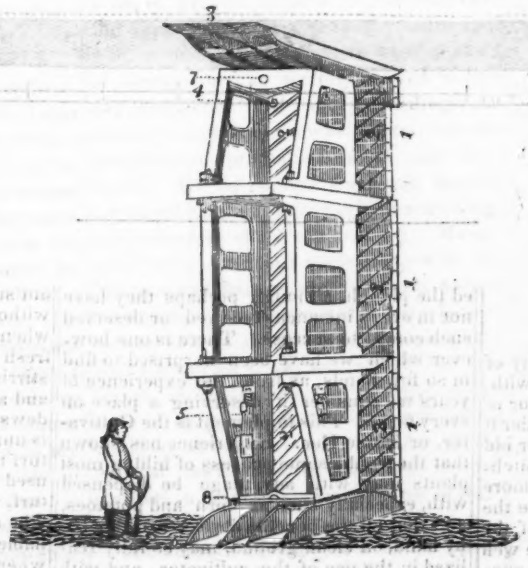

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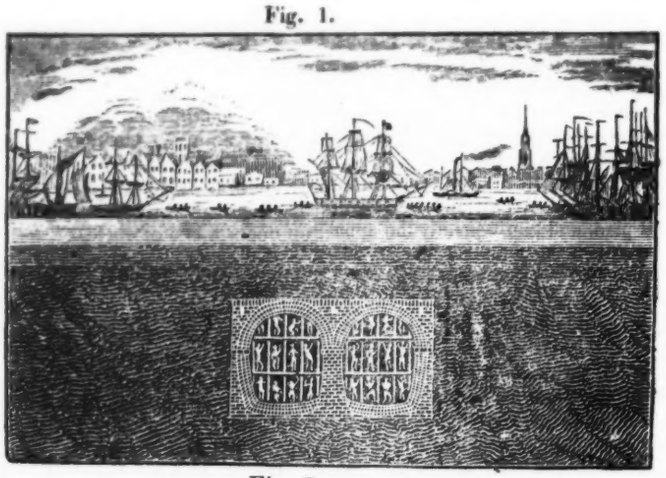

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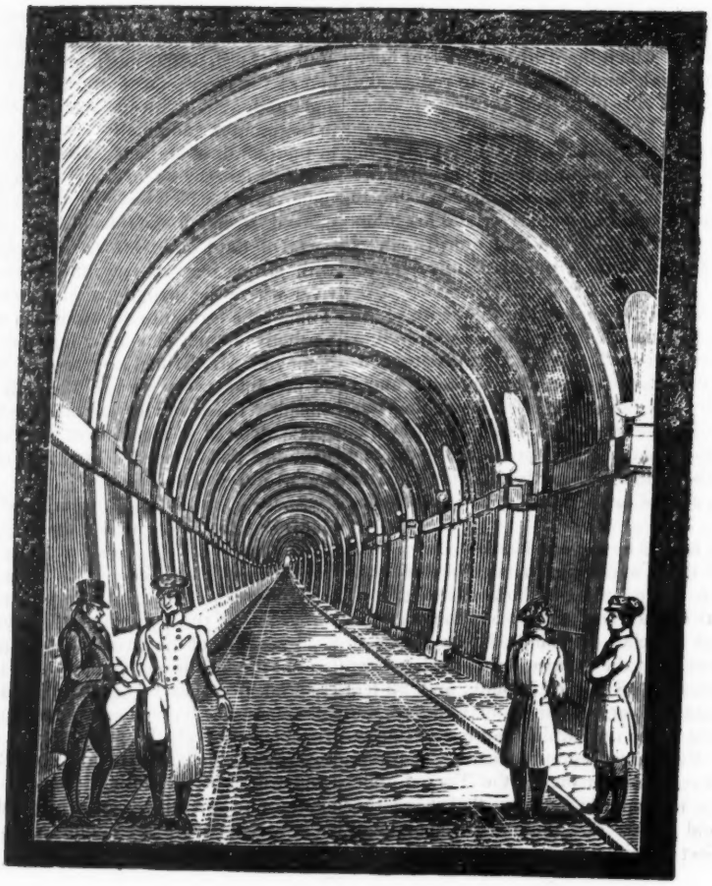

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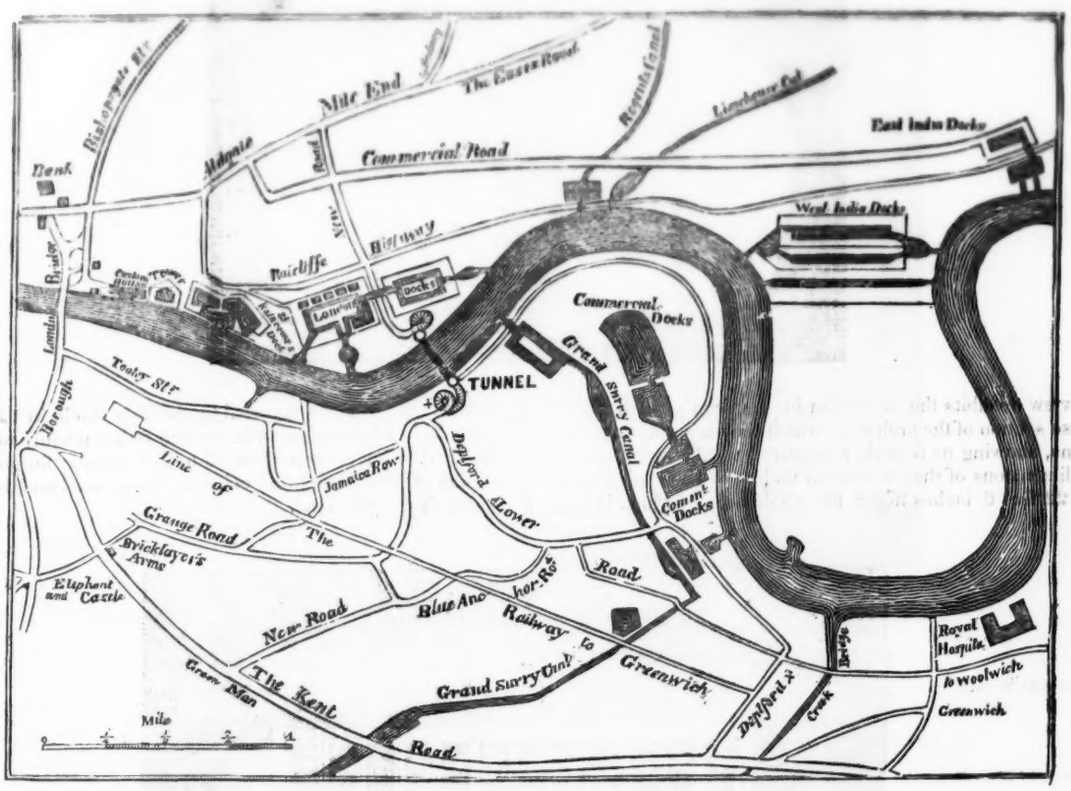

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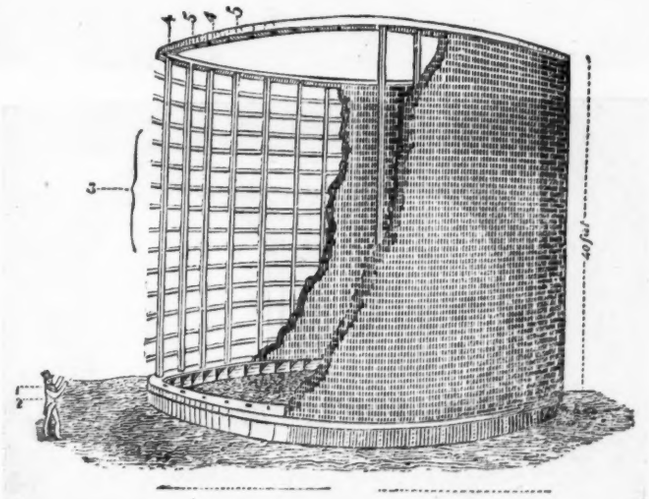

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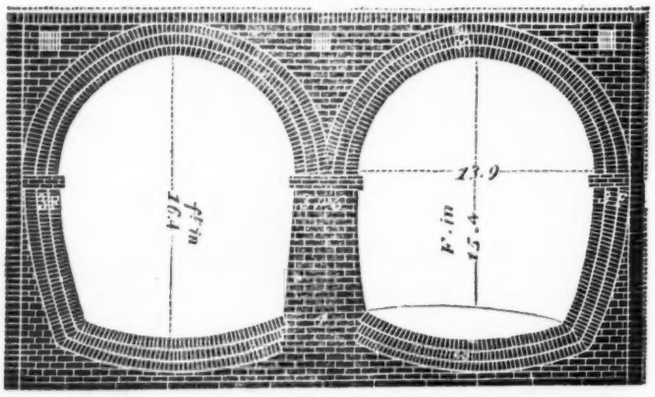

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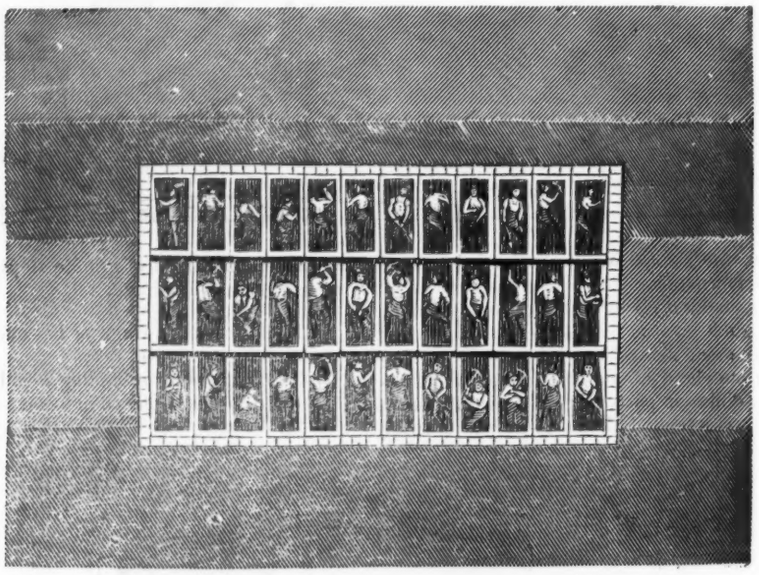

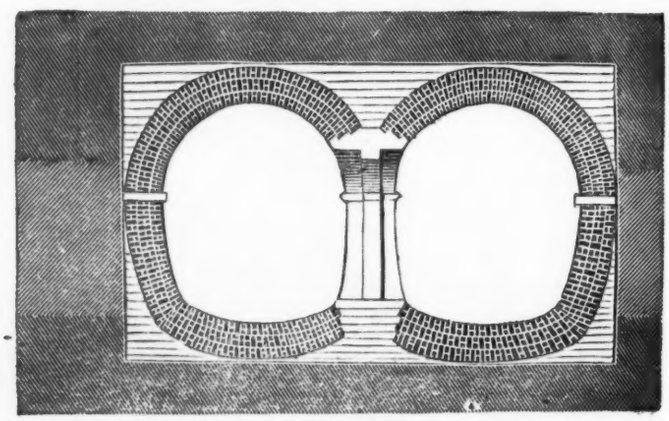

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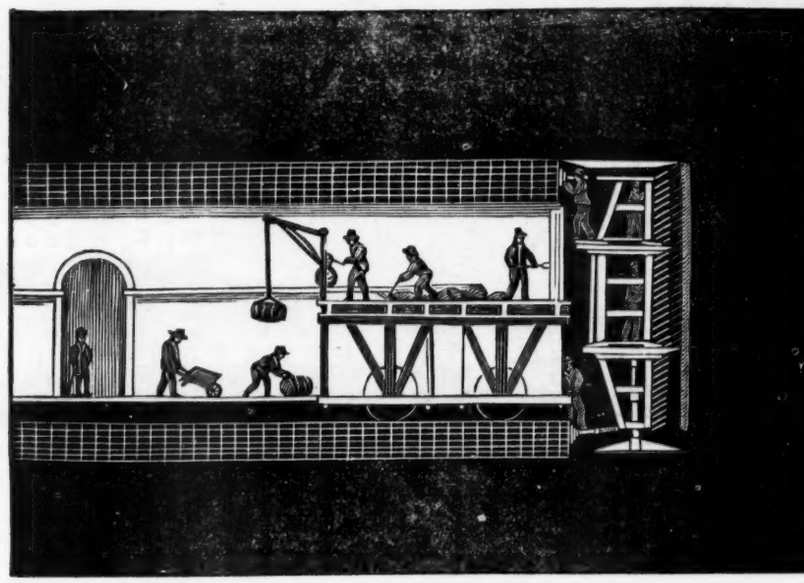

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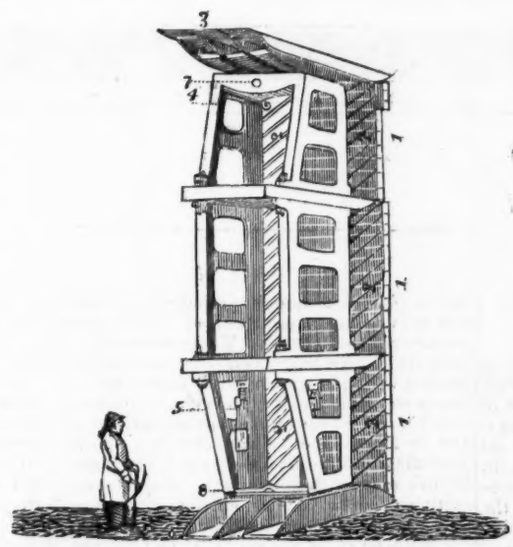
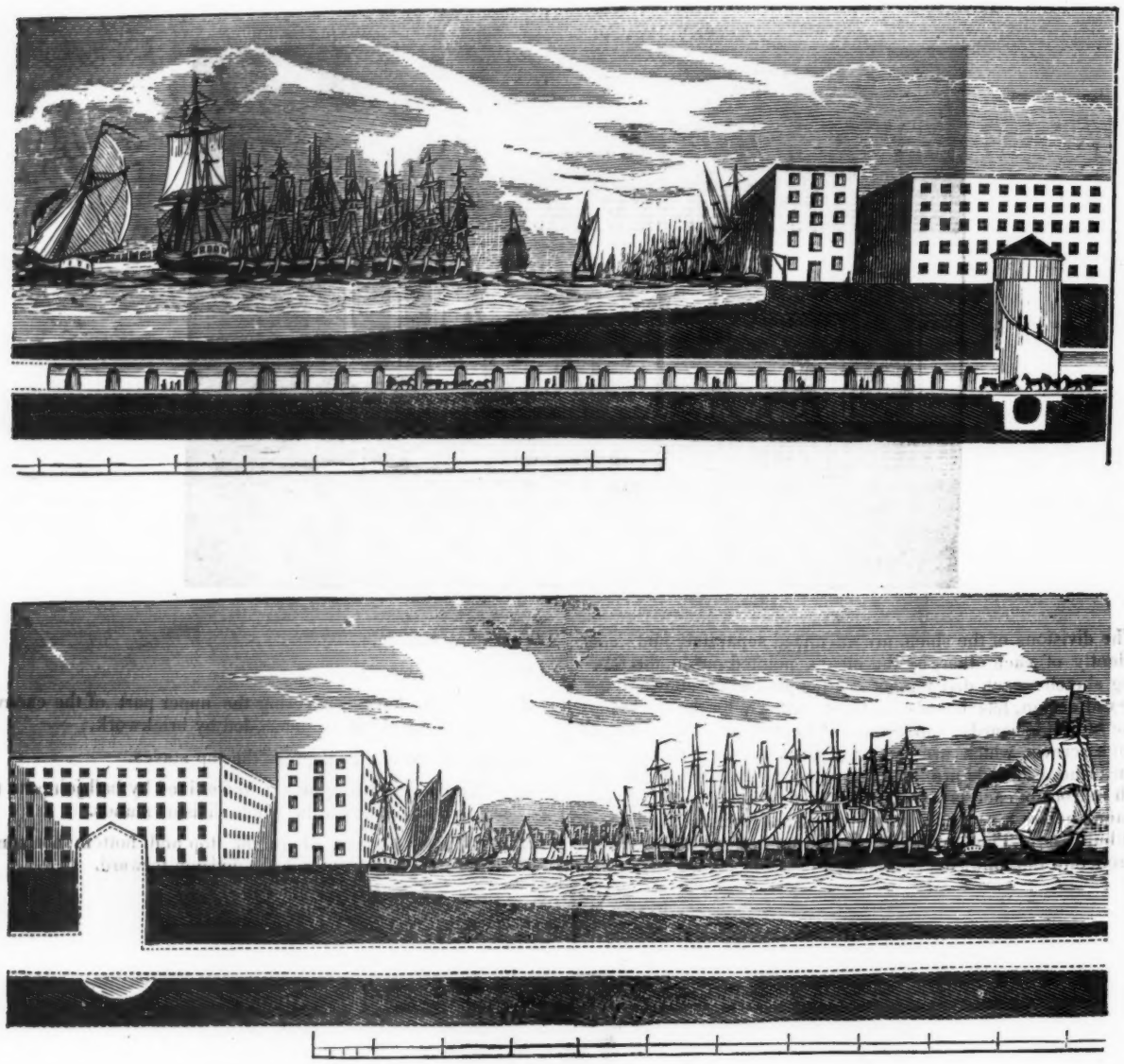
5. "The legs," being jack screws fixed by ball joints to the shoes 6, upon which the whole division stands.

7 & 8. The sockets, where the top and bottom horizontal screws are fixed to force the division forward.



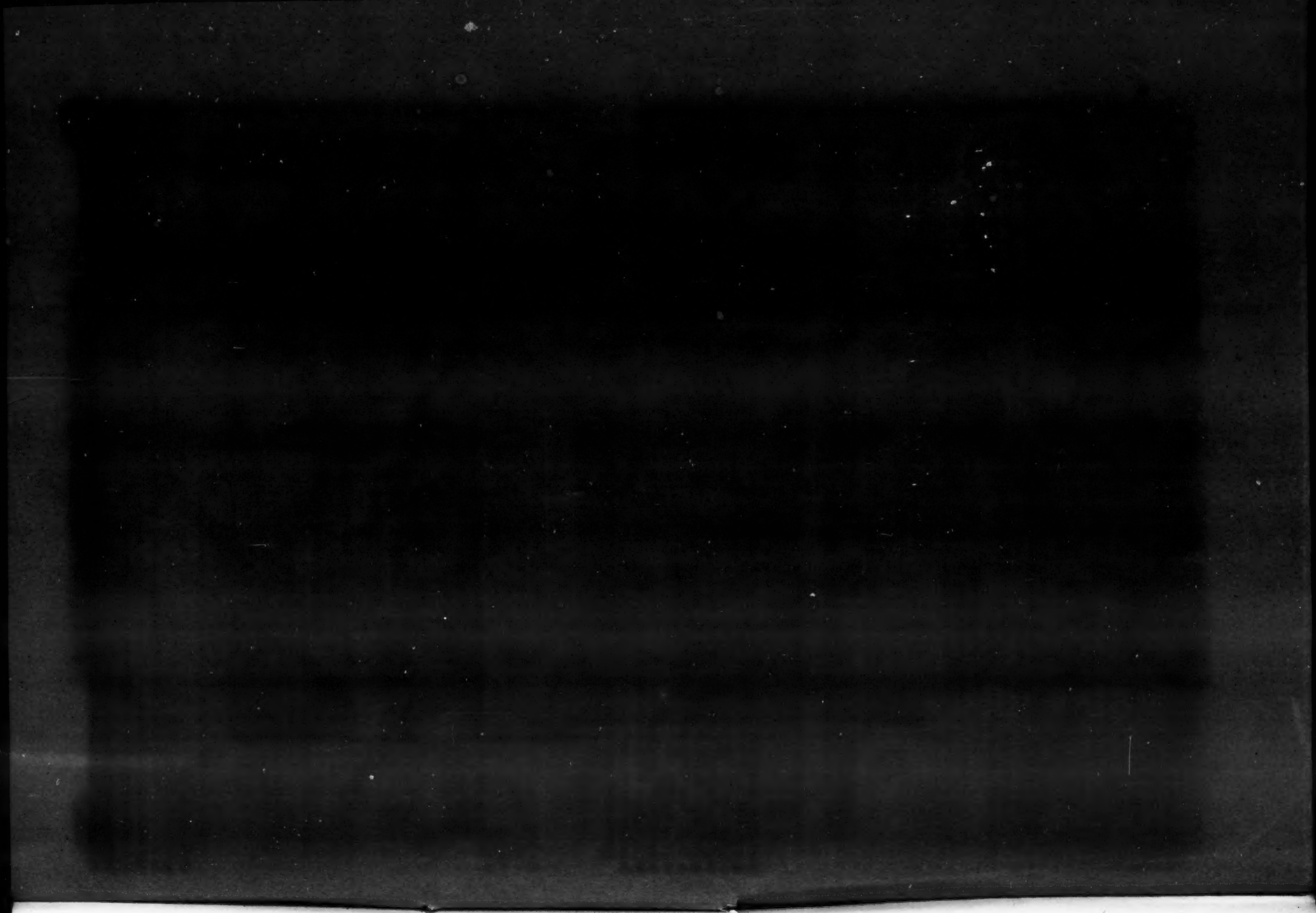
This transverse section of the Thames, with a longitudinal section of the Tunnel beneath it, shows the progress of the work to the extent of 600 feet from the shaft at Rotherhithe towards Wapping, with the openings provided to afford free communication from one archway to the other; the proportion of the work remaining to be executed, so as to complete the communication with Wapping, may also be here observed.



From the Genesee Farmer.

THE HORSE HOE.

The indifference manifested by many of our farmers as to the tools they work with, is most surprising. If they are good, or of the improved kind, they seem to consider it a lucky chance; if they are bad, or old fashioned, they jog on with them, only hitching on more team, and putting to it more strength. Nobody presumes to dispute the merits, or dispense with the services of the cast iron ploughs, now-a-days; yet we well remember they were looked upon with suspicion, and worked their way into use slowly. Improved implements in almost every branch of agricultural industry have followed the plough, although perhaps they have not in every instance received or deserved such complete success. There is one however which we have been surprised to find in so few hands, as from the experience of years we consider it deserving a place on every farm. This implement is the Cultivator, or Horse Hoe. Experience has shown that the troublesome process of hililng most plants may with advantage be dispensed with, especially such as corn and potatoes, and that all the benefits derived from hoeing by hand, on clean ground, may be fully realized in the use of the cultivator, and with an expense of time and labor inconsiderable. Where it is necessary to use the hoe at all after the cultivator, it is only in cutting out such few weeds as that could not reach without injury to the plants cultivated, or when desired, in placing small quantities of fresh earth around the growing crop. For stirring up the ground, rendering it loose and accessible to the influences of air and dews, and destroying weeds, the cultivator is unrivalled. In corn planted on lays, or turf turned over and rolled close, it may be used when the plough would disturb the turf, and do nearly as much hurt as good. The cultivator is a cheap implement, not liable to fail when well made, and if housed when not in use, as all tools should be, is very durable. Let those farmers who like a good thing, try the cultivator. O.



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The following article, from the New-York Express, may be of service to some of our readers. Every one who visits New-York should understand, and be governed by it, when using a Hack.

HACKNEY COACHMEN.

The difficulties constantly increasing between the Hackney coachmen of this city and our citizens, as well as strangers, together with their numerous and enormous impositions, make it our duty to let the public see what they ought to be paid. The coachmen forget that in the end they lose money by these impositions, for the dearer the fare is, the less the demand will be for coaches, and the greater the liability to imposition, the less inclined people will be to put themselves in a condition to be imposed upon. The fares now demanded are higher than in any city in England, where every thing is so dear, and far higher than in any city upon the continent: but the fares fixed by law, we copy below, as taken from the Corporation laws, and we advise our readers to cut out and lay by the article for the purpose of using it when occasion demands.

Five dollars are often demanded for taking strangers from one hotel to another, when the hotels are full, but the privilege of keeping the carriage *all day*, and of going to and returning from Kingsbridge, costs but five dollars. Passengers, under the Corporation laws, can go to Harlem and return, with the privilege of remaining three hours, for five dollars.

The price to 86th street, for one passenger, remaining one hour, and returning is two dollars, and for every additional passenger fifty cents.

The price for one passenger to 61st street, and remaining three quarters of an hour and returning, $1 50; every additional passenger, 37½ cents.

To Fortieth street, remaining half an hour and returning, $1; every additional passenger 25 cents.

To the new Alms house and returning, 75 cents, and for every additional passenger and returning, 37½ cents.

To conveying a passenger any distance exceeding a mile, and within two miles, 50 cents; and for every additional passenger, 25 cents.

To conveying a passenger any distance not exceeding one mile, 25 cents; and for every additional passenger, 25 cents.

The Hackney coach for the hour with one or more passenge.s, with the privilege of going from place to place and of stopping,—costs for the first hour $1, for the second hour 75 cents, and for every succeeding hour 50 cents.

The Hackney coachman has no legal right to demand or to receive any pay for the conveyance of a passenger, unless the number of the carriage and the rates of fare are fixed upon the carriage.

There is a penalty of $10 for asking a larger price than the law entitles the coachman to. A penalty of $10 is also inflicted upon the driver of a coach, when on any of the public stands, or whilst waiting for employment, when tendered his fare, if he refuses to carry any person or persons to any place or places on the island of New-York.

Every driver or owner of a Hackney coach or carriage, is under a legal obligation to carry upon his coach with his passenger one trunk, or other article used for travelling, without compensation therefor, and for every article more than one, he is entitled to 6 cents, for one mile, and if more, to 12½ cents.